

# SD Times

SOFTWARE DEVELOPMENT

The Industry Newspaper for Software Development Managers

FEBRUARY 15, 2001

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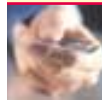
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## BROKAT BLAZES TRAIL FOR RULES MANAGEMENT

Advisor suite upgraded with application generation wizard, XML and J2EE support

BY DAVID RUBINSTEIN

In an upgrade to its only multi-platform product line, Brokat AG has released Blaze Advisor Solutions Suite version 3.2 with a rules application generation wizard, XML support and stateful session support in a J2EE-compliant environment.

Brokat acquired the product and its creator, Blaze Software Inc., in late September 2000, and this release marks the first significant improvement to the suite since then, according to Jeffrey Kilbreth, vice president of Blaze product management. The branding issue has been one

the company has wrangled with, he admitted, but said the decision was made to move forward with the Blaze name. "We were sort of betwixt and between after the merger," he said. "Blaze had a lot of momentum due to the buzz in IT over rules technology. We had kind of a name, but it was kind of small. So do you change it and blow on the embers, or let it go? Should you become Brokat Advisor from Blaze Software? People will know where to find us."

When they do, they'll find the only Brokat development

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## Suit Settled, Acrimony Remains

Sun says platform is protected; Microsoft urges JUMP to .NET

BY DAVID RUBINSTEIN

Sun Microsystems Inc. and Microsoft Corp. late last month agreed to a settlement of a long-standing lawsuit regarding Microsoft's licensing of Java technology, even as Microsoft

its existing versions of Java—the binaries cannot be updated and cannot be added to products that currently do not use Java—for seven years.

Enterprise development



Microsoft hopes to switch Java developers to .NET.

rolls out technology designed to lure Java developers to the .NET platform. Under terms of the agreement, Microsoft will pay Sun \$20 million, accept Sun's termination of the 1996 licensing agreement and accept a permanent injunction against the use of Sun's "Java Compatible" trademark. Microsoft won reassurances for its customers by getting a license to distribute

teams using Windows can continue to use the current versions of, and receive support for, Microsoft's Java-based products. Rich Green, Sun's vice president and general manager for Java software, said the door has been left open to Microsoft to license the updated Java 2

and future versions, but under the same terms by which all other licensees are bound. Micro-

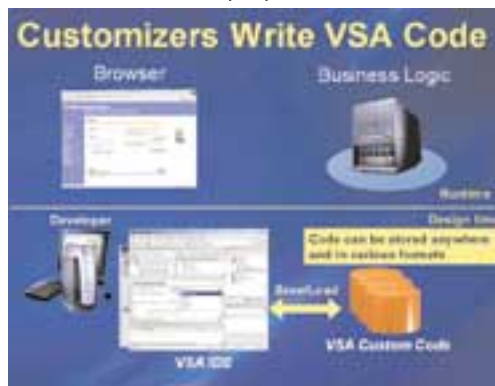
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## Microsoft's VSA Said to Quickly Customize Web Applications

BY DOUGLAS FINLAY

Microsoft Corp. contends its ambitious new Visual Studio for Applications (VSA) program, due for release this spring, will help developers customize Web applications quickly by eliminating the need to scan the full application source code to find events that need to be customized. It is currently in beta.

"What Visual Basic for Applications did for the desktop, Visual Studio for Applica-



Developers swiftly access object events with VSA's IDE.

tions will do for the Internet," said Robert Green, Microsoft's Visual Studio lead product manager. He said that VSA enables developers to build new object models on top of existing objects to expose both their properties and their events, offering a quick and easy way to access code to change Web application behavior.

those objects, and then create entry points using the VSA development environment to access them for customization," Green said. He called the entry points new object models on top of existing middle-tier business objects.

Frank Gocinski, Visual Studio program manager for pro-

► continued on page 26

## All Systems Go For Wireless Apps With agentMDK

BY EDWARD J. CORREIA

Wireless development tool maker agentGO, a division of Bowline.net Inc., has released agentMDK 2.0, an update to its mobile development kit, which now includes transcoding software and reportedly can offer mobile users access to files stored remotely.

According to the company, agentMDK combines Java and XML to permit developers to create personalized, secure applications for mobile access to enterprise data, regardless of the device. New to version 2.0 is the Mobile Presentation Engine, a transcoding back end that the company claims can permit the same application code to be deployed to nearly any wireless device. Also included is a storage engine, which is said to give

► continued on page 14



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# GenX to Let VC Developers Share Code, Knowledge

Visual C++ tool simplifies creation of wizards, adds templates to Microsoft IDE

BY EDWARD J. CORREIA

It's not the designation for the offspring of Baby Boomers, but they might be a significant part of its target audience.

Next month, DevelopMentor Inc. is scheduled to release GenX, an add-on to Microsoft's Visual C++ that the company says will allow developers to turn blocks of redundant program code into templates that can be distributed to others and easily customized and reused. This will be the first software product released by the company, which specializes in developer training and textbooks.

According to Mike Abercrombie, DevelopMentor's president and CEO, GenX is unlike many of today's code generation tools for one simple reason: It automatically generates

not someone else's code, but your own. "It allows Visual C++ developers to capture their own stuff and reuse it throughout the organization," he said.

Lauren Lilly, product manager, described GenX from a developer's point of view. "Rather than copy and paste code from one version of an object to another [for example], code can be turned into a template." These templates, also known as exemplars, can then be used to generate new versions of the object.

Variables can be inserted in place of actual values, Lilly continued, permitting developers to quickly replicate logic without having to individually edit



GenX's real power is in opening COM objects, says DevelopMentor's Abercrombie.

each copy. "Inside those markers you can also use JScript or VBScript, which are popular, easy to learn and add real power," because developers can use scripting to perform tasks within the markers, he said. "The real power is that you can open COM objects," which he said enables a template to generate code automatically based on what it can learn about its environment.

Lilly said that the obvious intention of GenX was to eliminate redundancies in development, such as those associated with building database tables. "I had a project where I had 75 tables in my database, and it took me three to four hours to create the first object," he said,

and nearly as long to replicate and modify the remaining 74. "People want a way of automatically generating code," and documenting it, which he said Visual Studio does not easily permit.

And without some form of documentation to accompany templates, reusing them is difficult, Lilly said. To simplify template sharing and facilitate variable input, GenX includes the ability to create wizards that can explain usage and prompt for input, which introduces added benefits, particularly for workgroups.

Abercrombie said that for enterprise developers, the advantages include not only the ability to improve programming efficiency and reduce redundancy, but also to spread knowledge. "The architecture [developers] rely on is

generally within the heads of a few people. GenX allows an enterprise to distribute knowledge and expertise with that code base throughout the organization so the application can scale quickly."

GenX is scheduled for release in March and will be available in authoring and runtime versions. The authoring edition (\$795) will permit exemplar and wizard creation, and will include 35 predefined wizards. The runtime version (\$195) permits display of exemplars and wizards only. The company (www.developmentor.com) also will offer a free version of the authoring edition for developers who wish to create and distribute or view exemplars, and plans to allocate Web space for posting them. ■

## Will Kylix Give Linux, Borland a Boost?

Analysts debate RAD environment's impact on enterprise desktops

BY EDWARD J. CORREIA

With the release of Kylix earlier this month, storm-battered Borland Software Corp. belatedly kept its promise to ship a RAD environment for Linux. The new software also may help the company's own recovery despite a market dominated by free and open-source software.

According to Evan Quinn, chief research officer at Hurwitz Group, an industry market-research firm, Borland has suffered from missteps but has shown more recent stability. "They've been rocky for years and years, but their most recent fiscal results were pretty positive," he said. "They showed some growth and some profit. So they are not on as rocky ground as they were."

Borland's past success, Quinn said, was founded on catering to markets with growing numbers of developers, which today means Linux. "Every company needs to establish a core competency and then leverage the heck out of it. Borland has always been known as the developer's best friend, and there is a significant number of Linux-oriented developers out there, and it's a growing number. One way to

leverage their core competency is to become a friend to those developers as well."

Rikki Kirzner, a research director at IDC, thinks Kylix will have a major impact simply because of the Borland name. "The biggest problem is that a lot of Linux development in business is not happening because we haven't had a class of tools that have had a reliable support structure behind them," she said. "So now we're finally dealing with a company who's been an established name in development tools that is lending their name and credibility to a suite specifically geared toward the Linux developer. This changes things."

Hurwitz's Quinn added that the changes, at least from Borland's perspective, will not happen overnight. "Are we going to see a dramatic rise in revenue in the near term because of Kylix? I doubt it. But can it have long-term benefits? Does it fit the profile of a company that wants to trade on its core competency? Absolutely."

According to Borland, the three main objectives of Kylix were to simplify Linux development, to provide an easy means of cross-platform development

and to provide Windows developers with an easy transition to Linux programming.

Michael Swindell, director of Borland's RAD business unit, said that Kylix will have far-reaching cost savings for the enterprise. "For corporate IT shops that are invested in Windows, investing in Linux could mean a lot of risk for them. Now with Kylix, they could invest in Linux knowing that if they wish to go back to Windows, they could," he said, adding that by simplifying development, costs and application deployment times are reduced.

Swindell also said that for existing Visual Basic developers, adapting to the similar Kylix is straightforward, and that much greater benefits await users of Delphi for Windows. "Visual Basic developers will be able to sit in front of Kylix and use their skills to develop Linux applications, and Delphi users can immediately build high-performance, modern native Linux applications or use their existing Delphi [for Windows] projects." Swindell predicted a "wealth of new native Linux applications" as a result of porting from Windows.

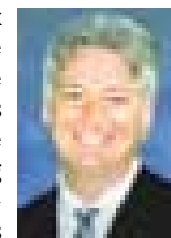
But Quinn was less optimistic. While Borland's release of a Linux version of Delphi does represent a "shot in the arm" for the Linux industry for server development, he said that this tool alone is not enough to start a wave of Linux desktop application development. "I am not convinced that that's where the Linux momentum will be in the long term or even in the near term. I think it's more on the server side where Linux is being viewed in the organization. I don't think this move is going to revolutionize anything, certainly not overnight. What it will do is entice developers to start considering Linux as an application platform in the enterprise and among ISVs."

Doc Searles, senior editor of the Linux Journal, disagrees. "I am pretty optimistic about it. I think Kylix is going to bring many thousands of Windows developers into the Linux arena. I also think it has a lot of the promise that .NET has for Microsoft but without tying developers to a single platform."

But Quinn said that before

a desktop wave can happen, additional market factors have to come into play. "When major packaged ISVs such as SAP and PeopleSoft start deciding that Linux is a primary platform that can make money, and not just one to support politically," a larger impact may be felt.

"But every little bit helps," added Quinn, hedging his position. "And everybody including myself, has underestimated Linux, so maybe there's



Kylix won't revolutionize anything, says Hurwitz's Quinn.

more to this than meets the eye. Microsoft has been looking over its shoulder for a couple of years now and has probably been happy that Linux has been used primarily as a Web server platform and not much else. I think that Microsoft will view this as a ripple and not a wave in enterprise development on Linux."

Quinn said, "Everything is relative," as he tried to put things in perspective. "If Linux has tens of millions of dollars in revenues associated with it today and this move allows Borland to turn it into a half-billion-dollar industry, on a percentage growth basis that's phenomenal. But in terms of its impact on J2EE or Microsoft, it's barely felt." ■

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# XML in the Machine

## SOAP and ebXML distribute information from system to system

BY LARRY O'BRIEN

One of the common misconceptions that nonprogrammers have about the World Wide Web is that, being a computer system, comprehension by other computer systems must be straightforward. As anyone who's tried to extract information from a Web page knows, though, seemingly minor graphical changes can alter an HTML document's structure dramatically. Even beyond the realm of data that's obviously relevant to humans, peer-to-peer services like Napster and Seti@Home demonstrate the radical potential of distributed architectures.

### SYSTEM TO SYSTEM

While most common programming languages have some support for remote procedure calls, XML in combination with an agreed transport layer such as HTTP promises easier development and debugging and easy mixed language development. Perhaps even more significantly, firewalls are typically used to block all but a handful of ports;

PART 3  
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3-PART  
SERIES

an HTTP request at port 80 is the Internet's equivalent to politely knocking on the front door, and any other request for access is often rejected outright (which is overly paranoid and incompetent and one of the great pet peeves of my life for the past two years, but an argument that can't be won). XML, of course, is just a specification for a text data stream; it's just as properly scratched into rock as sent over the Internet. An Internet remote procedure calling specification requires both the definition of an XML-based syntax and a transport mechanism.

Simple Object Access Protocol (SOAP), which you undoubtedly know is a cornerstone of Microsoft's .NET initiative, is just such a specification. Proprietary lock-in, however, should not be feared from SOAP; there are already (at least) Perl and Java implementations available as alternatives to Microsoft's SOAP toolkit.

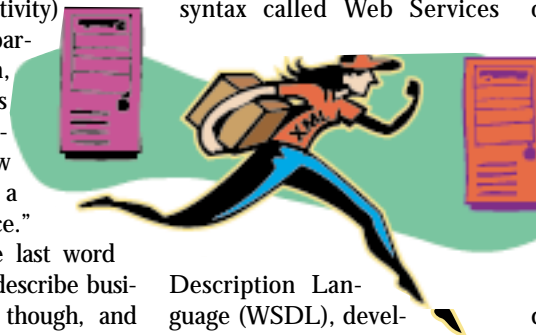
There are two cautionary notes about SOAP, however. First, there is another specifica-

tion, XML-RPC, that is a precursor to SOAP (its developer, David Winer, is one of the authors of the SOAP specification), which is simpler and has available clients and servers in a wide variety of languages and powers thousands of sites. You may wish to consider it for a quick project. Second, there is some feature pressure on SOAP from the W3C (which has subsumed SOAP within the XML Protocol activity) and perhaps in particular from Sun, which reversed its previously supportive stand and now refers to SOAP as a "good starting place."

"Simple" is the last word one would use to describe business transactions, though, and the ebXML initiative (www.ebxml.org) provides an alternative to SOAP that attempts to encapsulate all the services necessary for a "Single Global Electronic Market." In the world of Web services, though, the discovery, delivery and management of services is at least as difficult as coming up with a

technology for remote procedure calls, and ebXML fulfills these requirements that SOAP ignores. To get similar functionality from layered protocols, one would combine SOAP with Universal Description, Discovery and Integration (UDDI) and, perhaps, the Microsoft-supported BizTalk Framework for business transaction logic.

UDDI (www.uddi.org) has both APIs and uses an XML syntax called Web Services



Description Language (WSDL), developed by Microsoft, Ariba and IBM, and appears to be gaining more acceptance than ebXML, although the XML-driven B-to-B marketplace is still too immature for confident predictions of its infrastructure. SOAP certainly should become a part of every e-commerce group's competencies by the end of the year, and many companies will want to investigate UDDI sooner rather than later.

### XML FOR DEVELOPERS

The final XML domain of interest to SD Times readers is the one that's closest to home: XML for software development. The big question in developing XML-based solutions is whether to choose DOM or SAX. These acronyms (Document Object Model and Simple API for XML) represent two different approaches to thinking about an XML data stream, and if you're careless, the choice can significantly affect the system architecture. A DOM parser produces a complete data structure of the document in memory, while a SAX parser produces sequential events as the XML data stream is processed. The choice is sometimes obvious—use a DOM parser in situations where the document is going to be extensively reused and every element is potentially of interest; use a SAX parser if memory is tight and documents are large, or in situations where

you're just looking for a single element or type. Beyond that, the choice between DOM and SAX is one of individual preference; programmers who cut their teeth on event-based GUI programming may gravitate toward SAX, while those with more traditional backgrounds may find DOM more intuitive.

Added to the mix for Java programmers is JDOM, designed as a simpler and faster-to-program alternative to SAX and DOM. As might be expected in the standards-focused world of XML, this Java-centric alternative from the open-source bazaar generated a fair amount of criticism as unacceptably "light." Light or lightweight, JDOM (www.jdom.org) should be considered by teams implementing XML solutions in Java.

No matter how you choose to read and write XML documents, though, the one thing you shouldn't do is write your own parser—there are quite a few high-quality XML parsers available to the software development professional. For many, the search can begin and end at xml.apache.org, which provides Java and C++ XML parsers with optional Perl and COM wrappers.

### XML IS HERE, NOW

The second half of the Web revolution will be about semantically meaningful communication between software systems, even in situations in which the ultimate goal is simply an easier-to-use, richer browsing experience. XML, a simple-to-use, text-oriented way of describing structured data, is as fundamental to this inevitable progression as HTML was to the first half of the Web revolution. For all the soap-bubble transience of dot-com stock valuations, the fundamental economic impact of the World Wide Web has hardly begun. If you are, or may be, involved with the development of Web services, XML knowledge is absolutely fundamental to your work. The alphabet soup of applications and standards is the most confusing aspect of working with XML; we hope this three-part series has been of some use clarifying things. ■

Larry O'Brien is a software engineering consultant based in San Francisco. Reach him at lobrien@email.com.

## Zona Report Explains XML's Rise in Popularity

BY DOUGLAS FINLAY

XML has had a remarkable reception within the information industry over the past three years because it enables enterprises both large and small to communicate in ways in which earlier communications methods such as Electronic Data Interchange (EDI) and intranets have fallen short, according to a new 42-page report titled "XML: The Dash for Dot.Com Interoperability," from Zona Research Inc.

"The good news about EDI," said the report, "is that it is not simply a means of exporting data from one heterogeneous system to another, but that it is also a bidirectional mechanism for interaction between systems." But the bad news, the report continued, is that EDI has high fixed costs, embedded systems rules are rigid, and it is a point-to-point solution that must be re-engineered every time a company adds a business partner.

The same is true of intranets.

The Zona Research (www.zona-research.com) report said that while extended intranets "united systems under one IP protocol," reducing high EDI value-added network and phone line bills associated with dedicated lines, "they were still overshadowed by the cost to build and maintain the translation software."

Enter XML. "It separates business rule access from the implementing code, enabling changes in the business rules to occur without having to write all of the implementing code," the report continued. It said such a fundamentally new approach to business interoperability could have significant impact on business operations and...change the expectation of application and operational data interoperability.

The report maintained that business costs could be greatly reduced using XML as well. Using the RosettaNet as an example, the report claimed the coalition's goal is to save from 2

percent to 10 percent of transacted revenues yearly for its member companies, which include Compaq, Hewlett-Packard, IBM, Intel, Microsoft, SAP and Toshiba. "This goal translates to \$20 billion to \$100 billion per year in savings" in supply chain revenues, the report said.

The report said that where XML is expected to really excel is in handling change within business. Aside from separating business rules from their implementation, the report said that XML short-circuits the tedium of writing new code for applications by converting the code to XML form to use in any application. XML further excels at getting mainframe and n-tier system data into a form that is universally accessible. "It opens up data to new functionality, such as searching within an enterprise across items that were previously accessible only to small islands of departmental computing," the report said. ■



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# WebSphere Personalization Embraces Linux

## IBM adds new support for operating system as Web deployment platform

BY ALAN ZEICHICK

IBM Corp. has been arguably the largest and most vocal advocate of the Linux operating system for the enterprise. The company continues to gain visibility by increasing its hardware support for Linux, which it now does from its largest zSeries mainframes to smaller xSeries server. Businesses seeking to deploy commerce sites based on IBM's WebSphere Application Server now have more Linux options as well.

First, the WebSphere Application Server 3.5 was released for Linux on Dec. 15, 2000. And as of late January, IBM was to ship the WebSphere Personalization Server on that operating system.

WebSphere Personalization Server is a member of the larger WebSphere product family, which also includes the Java-based WebSphere Application Server, the WebSphere Studio suite of development tools and the WebSphere Site Analyzer, which provides management data about Web site usage.

Previously, the Personalization Server ([www.ibm.com/software/webservers/personalization](http://www.ibm.com/software/webservers/personalization)) had been available only for Windows NT/2000, but with the release of version 3.5.2 on Jan. 24, IBM has added to the product support for Linux, HP-UX and its own AIX operating systems. The Personalization Server allows business managers to define business rules that dynamically customize Web content based on a customer's site browsing or purchasing profile.

"You can't have a customer conversation without mentioning Linux," said Kevin Leahy, program director for WebSphere Foundation Extensions, which includes the Personalization Server, citing that although Windows NT/2000 is dominant for workstations developing WebSphere applications, an increasing number of customers plan on deploying on Linux. One of the key reasons, he said, is simply that developers and entire IT departments like working with Linux.

Another is that it allows companies to have greater choice in deploying Web applications. Leahy cited the fact

that the Personalization Server running on Linux runs on the S/390 and zSeries mainframes. Although Leahy said that IBM plans to introduce a native

OS/390 version of the Personalization Server soon, tentatively in the third quarter, "we were able to deliver it earlier [on that hardware] using Linux."

Available now, WebSphere Personalization Server 3.5.2 is priced at \$10,000 per processor, and supports the Caldera, Red Hat, SuSE and Turbo Linux

distributions. The AIX, HP-UX, Solaris and Windows versions have the same price; according to Leahy, an OS/400 version is currently under development. ■

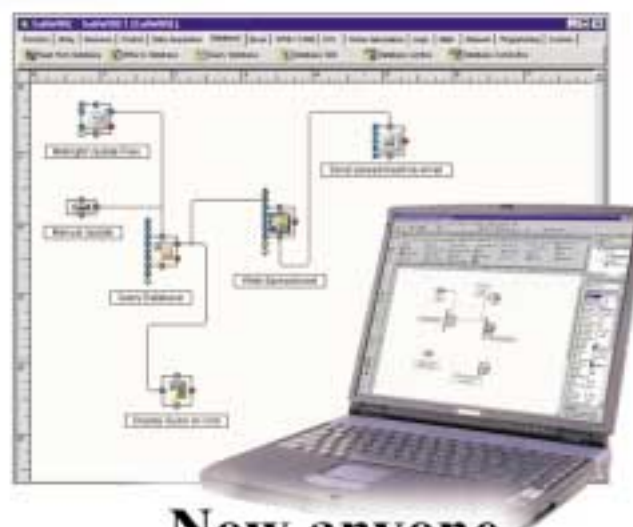


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## News Briefs

### COMPANIES

In a partnership announced at the Microsoft VSLive 2001 conference last month, **Xtras Inc.** will make its Visual Basic, Windows NT Server and BackOffice online tools available at **Objecttools Corp.**'s Web site ([www.objecttools.com](http://www.objecttools.com)). Objecttools provides technical, sales and marketing support to Xtras. . . . **Software AG Inc.** said that its new agreement to integrate its Tamino XML database server with **thinkXML Inc.**'s think2000 XML forms and deployment management system will enable both companies' customers to quickly access Web-based data, create electronic business forms for this data and store it natively for retrieval and distribution. . . . **GfK Group** has purchased 19.9 percent of **Caribou Lake Software Inc.**'s outstanding stock, providing Caribou with access to working capital to fund its growth. GfK Group includes



**Custom Research Inc.**, a database marketer, which, when teamed with Caribou, will expedite the use of new technologies and the Internet to provide new database services to customers. . . . **HotDispatch Inc.** has launched the HotDispatch Developer Zone, an online support resource within **Sun Microsystems Inc.**'s Forte for Java products and services marketplace. Developers using Forte can use the site to post and answer questions, propose projects, locate project resources and exchange code. Visit [www.sun.com/forte/ffj/resources/marketplace](http://www.sun.com/forte/ffj/resources/marketplace).

### PRODUCTS

IBM Corp. has released its **UDDI for Java** kit, which enables developers to access UDDI registry information on any server using Java. . . . SuSE Inc. has released its **SuSE Linux 7.1** featuring the Linux 2.4 kernel, glibc 2.2 and KDE 2.0.1. Cost for the personal edition of Linux 7.1 is \$29.95. . . . Parasoftware Corp.'s **WebKing 3.0**, an upgrade of its Web site development and testing tool, now includes load testing and the ability to automatically exercise a dynamic site. The new load-testing feature performs either by the developer specifying which paths are to be tested, or by automatically creating and testing paths, which completely exercises the site. WebKing 3.0 works with Linux, Solaris and Windows. Available now, prices start at \$4,995 for 10 virtual users. . . . NuSphere Corp.'s **MySQL version 1.13.5** open-source database includes security and database driver compatibility and performance enhancements to applications requiring Perl scripts. Two new database drivers can create reports and analyses of usage in the MySQL database. With MyODBC version 2.50.36, developers in the Windows environments will have open database connectivity support. . . . Virtual Access Networks Inc. has partnered with SuSE Inc. to introduce **The Van**, a PC settings migration utility that brings programs from Windows to Linux without losing settings or files.



### PEOPLE

**Philippe Harichaux** has been named eDevice Inc.'s vice president of business development for the Asia/Pacific region. . . . Virtual Silicon Technology Inc. appointed **Douglas Lyons** as its vice president of



North American and European operations. . . . **Donald Davis** has taken the reigns as Curl Corp.'s new corporate security architect. He will collaborate with other security architects **Robert Halsted Jr.** and **David A. Kranz** to implement a

**LYONS** software security architecture within the organization. . . . **Terry Hulett** has been picked up as Banderacom Inc.'s new vice president of engineering. He was formerly vice president of research and development for Si Solutions. . . . Aduva Inc.'s new CEO, **Azi Cohen**, succeeds the company's founder **Shlomo Weintraub**, who will remain as chief operating officer. . . . Software AG Inc. has appointed **Michael Kay** to oversee implementation and use Extensible Stylesheet Language Transformation (XSLT) in the company's overall XML architecture. Kay will further represent Software AG on the World Wide Web Consortium as a member of the XSLT working committee. . . . Accelerated Technology Inc. has appointed **Lance Brooks** as its chief technology officer. . . . Information appliance infrastructure provider BSquare Corp. has appointed **Brian Turner** as president and chief operating officer. He was formerly the company's chief financial officer. ■

# IBM Toots Suite for Enterprise Teams

New bundle of old products said to quicken integration of assets

BY DAVID RUBINSTEIN

Sometimes it's not what you sell, but how you sell it. IBM Corp. is putting a new coat of paint on some of its development and deployment tools and bundling them up in a neat new suite in a marketing move targeted at large, heterogeneous enterprise development shops.

Called VisualAge Enterprise Suite 1.0, the suite is a package of related application development environments that, according to IBM's e-marketing director Scott Hebner, can help customers reduce the cost of software ownership, provide flexibility to create personalized development environments and enable the integration of existing environments.

"Most enterprises have different twists to what their needs are," said Hebner. "A one-size-fits-all solution doesn't work."

The suite includes VisualAge for Java Enterprise Edition 3.5, WebSphere Studio Professional Edition 3.5, VisualAge Generator 4.5, VisualAge COBOL for Windows NT 3.0 and VisualAge PL/I 2.1. The bundle is targeted at enterprises that would make a 50-seat or more investment, Hebner said.

A key piece of the suite is VisualAge Generator, which Hebner said is a bridge between COBOL and PL/I, and Java and XML. "A customer can use VA COBOL or VA PL/I to enhance existing code, but in VA Generator the developer can work in a 4GL environment to create Java beans and EJBs to develop distributed applications," Hebner said.

Hebner said the suite is for large development shops that want to leverage COBOL and CICS applications on the Inter-

net by using Java and Java Server Pages, but still be able to update and enhance the COBOL applications. Also, many of those large enterprises have as many as 40 different development environments, with many different assets written in different languages, he said, and the VisualAge suite is a way for them to establish a common infrastructure for creating applications and integrating them in an e-business strategy.

"You can't rip and replace" your infrastructure, said Hebner. "Application development is evolutionary, based on the concept of increasing returns. Past investments dictate what future investments will be. There needs to be a coexistence and integration" of assets in the enterprise.

The suite is priced at \$209,950 for 50 developer seats. ■

## LAWSUIT

< continued from page 1

soft has indicated it will try to have its new C# language and .NET platform established by then, so that future licensing won't be necessary.

In fact, Microsoft wants to encourage developers to stop using Java by introducing almost simultaneously with the settlement a migration strategy called Java User Migration Path to .NET (JUMP to .NET). The utility and tools are said to enable Visual J++ users and others developing in Java to make the transition to Microsoft's platform, which Microsoft said will improve the interoperability of Java with software written in other programming languages.

JUMP to .NET includes three sets of tools: to modify Java applications to work with .NET, to use Java language syntax to directly target the .NET platform via the Visual Studio .NET environment, and to automatically convert Java source code into C#, migrating both syntax and library calls. In a statement, Microsoft said JUMP to .NET "further underscores our commitment to interoperability and choice of programming language for building Web services." JUMP to .NET is expected to be released into beta in the first half of this year, with a final release in the second half. Pricing, as well

as migration services to ease the move, will be announced later this year, according to Microsoft.

It has taken years of machinations and court proceedings to get to this point, with each side winning victories during the war.

In October 1997, Sun filed suit in U.S. District Court in San Jose, Calif., to stop Microsoft from shipping incompatible implementations of Java. Microsoft countersued, claiming Sun filed the suit simply because Microsoft's implementations were of a higher quality, and that Sun breached its 1996 contract by denying Microsoft's attempts to create derivatives of Java. "Sun's interpretation of the contract seemed to change on a monthly basis," Microsoft spokesman Jim Cullinan said. "If everyone knew their definition of compatible, people would want their licenses to expire." Other vendors, including IBM Corp., have complained openly about what they see as prohibitive licensing rules.

"We blew by them in quality and they decided to use the court system to compete," Cullinan said. "Our customers wanted us to support Java, and Sun wanted to keep desperate control of Java even if it was not in the best interest of the developers."

Sun's Green said the settlement is "a plot on an existing line of Microsoft's behavior. They have a repeated pattern of

claiming standards and implementing pieces that are proprietary. It's in their culture."

Microsoft's license was due to expire in March, Cullinan said, adding, "We wanted to get this behind us. The [\$20 million] is a mild amount of money versus the cost of defending a lawsuit." While telling its developers and customers that it will be able to support its current Java implementations for seven years, Microsoft is putting a great many resources into its C# and .NET strategies. "We're moving on, which includes our vision— .NET—which we believe is the better vision, and we believe C# is the better programming language," Cullinan said. "[Sun] should stick to hardware and leave software to people who know what needs to be done."

As for .NET, Sun's Green said, "Software is never better than the day before it ships. They have many days left before they ship [the .NET platform]. It takes a long time for languages and APIs to mature. We have a five-year lead with Java. This is not something to be glossed over. It's a significant thing."

He added that 90 percent of all application servers in use in enterprises today are written to Sun's J2EE specification. "Microsoft has chosen to deny developers on their native platform access to that trend," Green said. ■



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# Say Yes to Code Generation

YesSoftware's CodeCharge focuses on Web development

BY DAVID RUBINSTEIN

Many Web development tools are created for content and site designers, not for programmers. YesSoftware, a California start-

up, says that its CodeCharge application is different. According to company founder Konrad Musial, "This will generate code of the same quality [developers]

would write themselves."

Musial described CodeCharge as similar to Macromedia Inc.'s UltraDev, but with less focus on graphics design

and more emphasis on code.

With the Windows-based CodeCharge, Musial explained, developers can design a prototype version of their software, generate the source code for the prototype and then manually complete the application's programming. The source code can be generated in many program-

ming languages, such as Allaire's ColdFusion Markup Language, Microsoft's Active Server Pages, Perl, PHP and Sun's Java Server Pages, Musial said, and can support database access through ADO, JDBC and ODBC.

YesSoftware (www.yessoftware.com) came into being in February 2000 as a consulting company doing Web development, Musial said. CodeCharge came about because the consultants found this type of tool to be lacking, he explained. Located in South San Francisco, YesSoftware employs 30 people, with 18 code developers and several project managers.

CodeCharge sells for \$149 for a single user. ■

## UPSPRING REVISES SOFTWARE QUALITY BENCHMARK STUDY

BY ALAN ZEICHICK

Want to know how your C/C++ code's quality compares with that of other companies? Upspring Software Inc., formerly known as Software Emancipation Technology Inc., has updated its Software Quality Benchmark (SQB) study, which development managers can use to compare the intrinsic quality of their code.

According to Upspring (www.upspringsoftware.com), the SQB 2.0 study has a much larger sample size, comprising 32 separate development projects completed by Upspring's customers, containing a total of 15,460,343 lines of code—an increase of more than 50 percent, said company spokesman Alex Forbes, over the original SQB release.

The SQB is produced from a database of individual quality-assessment reports. Quality is measured by finding actual defects that violate predefined programming rules or language standards, or code that would be hard to maintain.

To compare the quality of an enterprise's software projects to the benchmark, said Forbes, the customer would need to do a manual count of defects in the code or, more likely, buy a quality-inspection tool such as Upspring's CodeRover Caliber or QA Cockpit. The quality-assessment report from the customer's own software is then compared against the SQB 2.0 database to generate the benchmark report.

SQB 2.0, available now, is priced at \$10,000, and is also included in Upspring's Magnify for Quality service offering. ■



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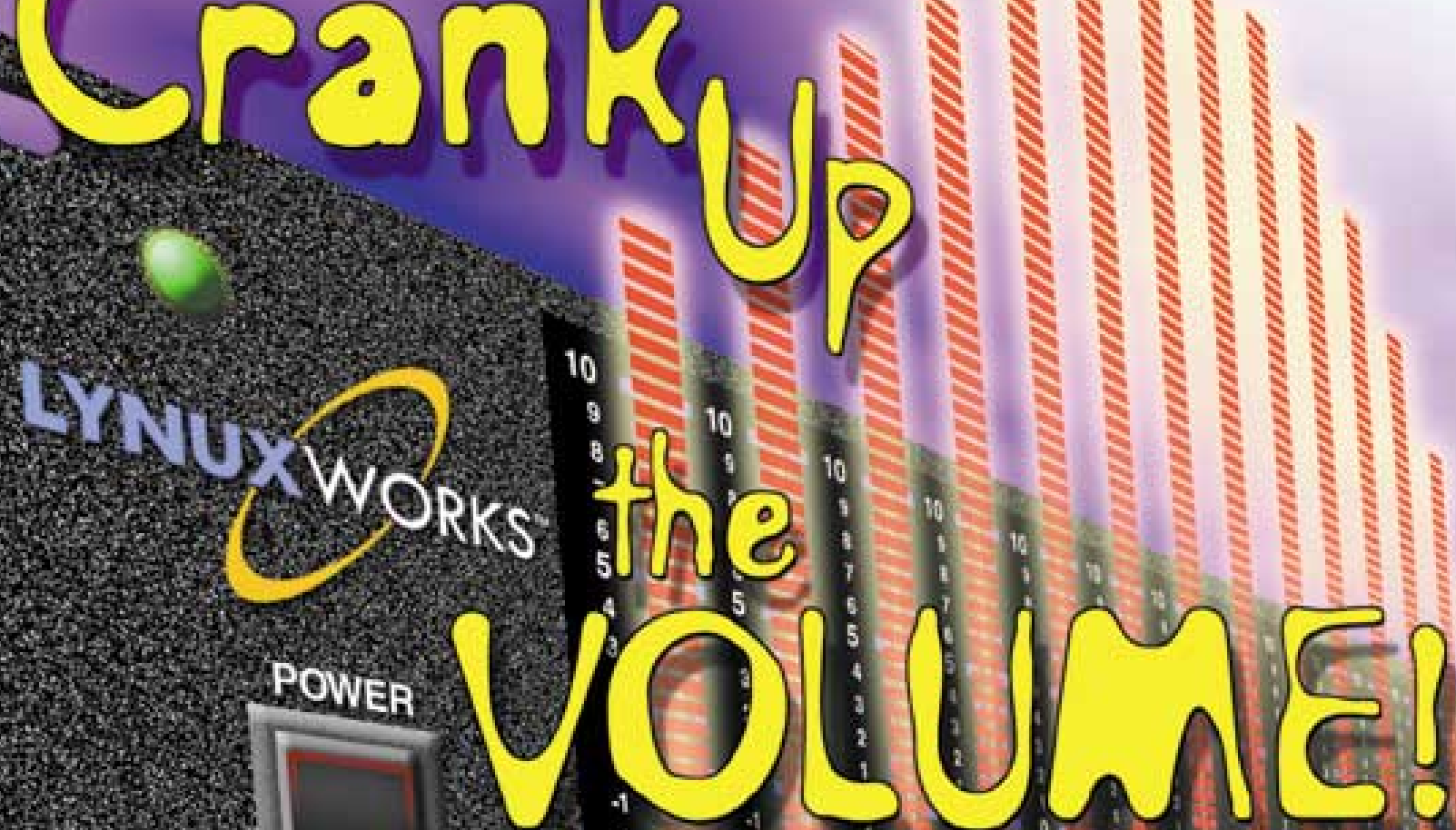
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# Lineo, Metrowerks Pack Developers' Suitcase

Linux-based hardware kit to include Motorola MPC8260, CodeWarrior IDE, Embeddix SDK

BY EDWARD J. CORREIA

It's great to find a suitcase full of money, but finding one that saves your company development time is almost as great, right?

Embedded Linux developer Lineo Inc. has teamed up with Metrowerks Corp., maker of the CodeWarrior integrated development environment, to build an all-inclusive development kit that will package CodeWarrior with Lineo's Embeddix SDK along with a development board from Metrowerks' parent company, Motorola.

According to Lineo (www.lineo.com), the MPC8260 Development System, the first in a series of development "suitcases," will feature Motorola's MPC8260 PowerPC processor board. The kit will ship pre-

loaded with Embeddix—Lineo's Linux-based operating system—and other software. By bundling the preintegrated hardware and software together, the company says, developers can save time and begin developing applications immediately. Lineo demonstrated the system at the LinuxWorld Conference in New York earlier this month.

The preinstalled software is not etched in stone, said Tim Bird, Lineo's chief technology officer. The kit also includes the Embeddix SDK and its Target Wizard, which Bird said permits developers to "configure and customize the Linux software for the target, so that on the off chance that what's preflashed is not



Developers can change the included software if need be, says Lineo's Bird.

exactly what they want, they have the capability to reconfigure the open-source software that comes with the board, or write completely new software using the IDE" and reflash the hardware, he said.

Bird said that the expected usage model for the kit would be to begin building software using the development board while seeking to purchase a custom board built around the same processor and peripherals, eventually switching the software over to the new board for testing and deployment. "This is a tool aimed at anyone developing an embedded device," said Bird, which could include enterprise applications such as point-

of-sale terminals or "headless" network devices such as routers, switches and gateways.

The MPC8260 Development System, which will be marketed by both Lineo and

Metrowerks (www.metrowerks.com), is scheduled to begin shipping in March and will sell for \$14,495. Application development may be hosted on Linux or Windows platforms. ■



The suitcase contains an all-inclusive embedded development kit.

## Checking the Pulse of Smart-Card Market

smartX ATK eliminates APIs, cuts terminal interface complexity

BY EDWARD J. CORREIA

Now that the credit/debit card infrastructure is in place just about everywhere, it may be time to rip it out.

Smart-card software developer Thinkpulse Inc. has released the smartX Automation Toolkit (ATK) 1.1, an update to its software development kit first released in October 2000. The SDK automates the process of building smart-card applications compatible with any brand of card. The tools also eliminate the need for card-specific APIs and reduce the complexity of building a terminal interface, the device that communicates with the cards, the company says.

The smartX ATK provides the developer with lists of all the possible processes contained in a given smart card. These lists, known as primary dictionaries, eliminate the need for APIs, the company says. Developers use a GUI to drag and drop primary dictionary items to create so-called "application dictionaries," which are stored as XML documents in a terminal or on a Web server.

When a card is inserted into the terminal, a runtime engine identifies the card format and either runs the appropriate resident application dictionary, or loads one from a Web server and then runs it. If

none is available for a particular card, a message is displayed to the card holder or merchant, and another can be sent to the terminal maker informing them of the need to develop an additional dictionary. Newly developed dictionaries can be pushed to all terminals

simultaneously or stored on a server until needed.

According to Thinkpulse (www.thinkpulse.com), its system not only prevents terminal obsolescence by adapting to new cards on-the-fly, but eliminates the need to ship smartX-enabled terminals preconfigured for all known cards.

The kit ships with 11 primary dictionaries, all for smart cards manufactured by Gemplus SA (www.gemplus.com).

Applications can be written to drive multiple cards. The software also reportedly includes built-in application test functions for verifying dictionaries without the need for target terminal hardware.

Scheduled for release this month, the smartX ATK 1.1 is priced at \$495. Thinkpulse also offers secure Web hosting of application dictionaries; pricing is application- and volume-dependent, the company says. ■

## DOUBLE THE EFFICIENCY, HALF THE COST

Two-headed Tandem SBC multiplies processor capability

BY EDWARD J. CORREIA

Applied Data Systems Inc. has released Tandem, a single board computer capable of supporting two separate applications, each with its own display and I/O. The announcement was made at the LinuxWorld Conference in New York earlier this month.

According to ADS (www.applieddata.net), the main advantages of a two-headed system are its ability to reduce manufacturing and software licensing costs, effectively doubling the efficiency of each deployed unit. Tandem is being targeted for use in point-of-sale terminals and information kiosks.

The board is built around a single Intel StrongARM SA-1110 32-bit RISC processor

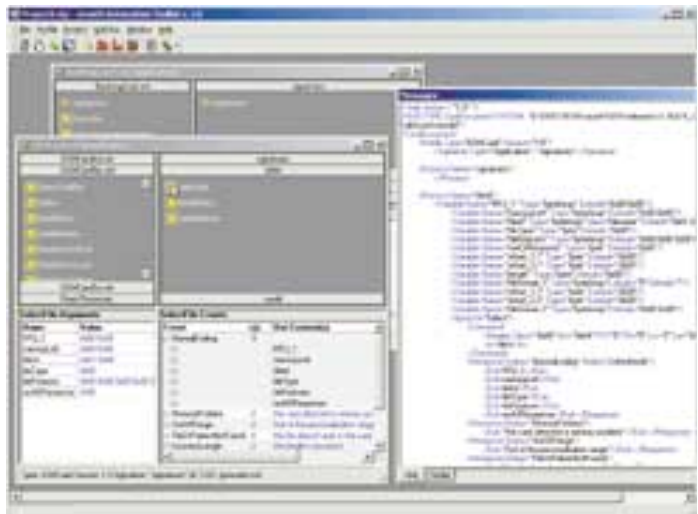
and includes two MQ200 graphics controllers from MediaQ Inc. (www.mediaq.com), which specializes in embedded graphics circuitry and software. Each display can have its own sound.

According to ADS CEO Robert Olsen, most embedded applications of the past that required two displays also have required two separate computer systems. "Now, with our dual-headed unit, users can run applications with one license and one set of memory, reducing operating costs by 50 percent." The unit is available with embedded Linux, OS-9, VxWorks or Windows CE, and supports Java.

ADS also offers an optional I/O package for Tandem that incorporates Intel's SA-1111

companion chip, adding a USB Bus Master with four-port USB hub, Ethernet 10baseT controller area networking and a temperature probe interface. Additional I/O packages offer as many as 32 digital I/O ports, 12 analog inputs and keypad scan support for as many as two 4-by-4 keypads for cash machine, kiosk and card reader applications.

Available immediately, the configurable board supports as much as 32MB of program memory/frame buffer DRAM, 32MB of flash memory, 128KB of EPROM boot memory, one PC Card slot, three serial ports and an on-board audio codec with speaker and microphone support. Pricing in production quantities starts at around \$400. ■



Predefined command dictionaries eliminate card-specific APIs.



# AGENT MDK

◀ continued from page 1  
mobile devices read/write access to files stored on Unix and Windows NT servers. Documents may be edited, e-mailed, printed to an IP printer or routed to a fax machine, the company said.  
According to Andres Carval-

lo, agentGO's chairman and CEO, what drives the Mobile Presentation Engine is its underlying Application Development Markup Language, or ADML. Carvallo described ADML, which is generated automatically by the MDK, as a proprietary XML schema and the key to application portability. Once a

generic application is created, developers have the option of tweaking it for individual device types, if desired. The system also permits control over levels of data access based on a company's existing business rules, Carvallo said.  
In addition, agentMDK 2.0 now includes an evaluation ver-

sion of agentWorks 2.5, the company's enterprise mobile application server platform. According to the company, agentWorks can process and distribute millions of messages per hour to pagers, cell phones and handheld computers. And when integrated with enterprise applications, Carvallo said the software

can be used to automatically generate messages from a helpdesk or network monitoring system, for example, and distribute them wirelessly to any number of appropriate devices.  
Carvallo described how Continental Airlines uses agentGO software to keep air and ground crews informed of critical events. He explained, for example, that closing an airport due to adverse weather conditions necessitates not only the rerouting of incoming flights, but the monumental task of informing countless air-

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line personnel and service providers. A call center staff must manually contact dozens of involved parties, which can include pilots and flight attendants, maintenance and field service crews and third-party companies such as caterers. "Our software and libraries can automate that portion of the call center," Carvallo said, and notify them automatically of flight delays and cancellations.

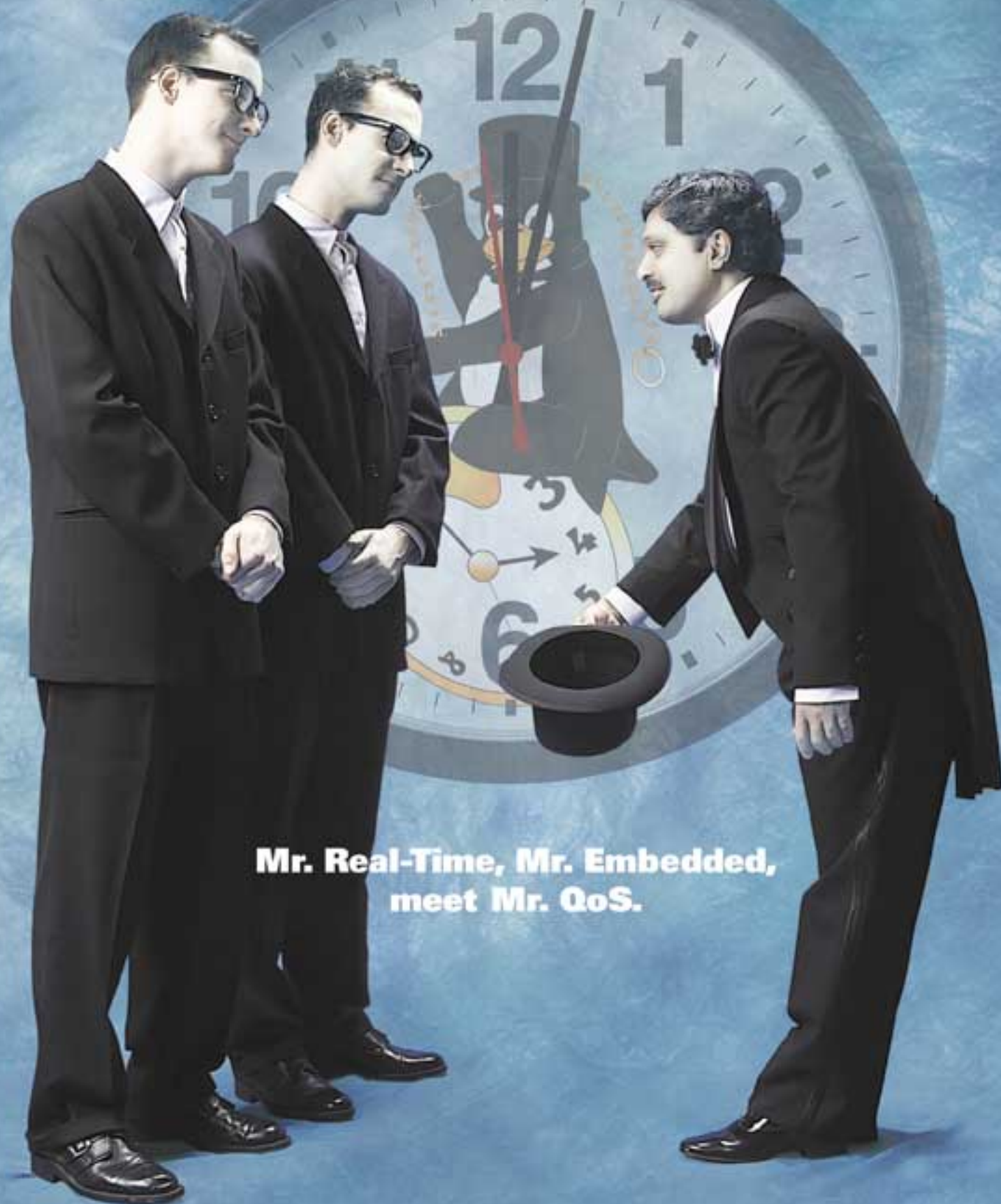
Carvallo said that agentMDK applications will run on any Java-compliant application server supporting EJB 1.1, including ATG Dynamo, WebLogic and WebSphere, and that the kit is compatible with most RDBMS engines. agentWorks runs on Linux, Solaris and Windows NT/2000, and pricing starts at \$200 per user. The kit also includes improved documentation and a suite of tutorial applications and components.

A free evaluation version of agentMDK and agentWorks server software is available now for BEA Systems Inc.'s WebLogic application server running on Windows NT, and can be downloaded at [www.agentgo.com/devzone/Downloads.html](http://www.agentgo.com/devzone/Downloads.html). According to Carvallo, the free version is untimed, fully functional and supports 50 users. ■



agentMDK creates portable wireless apps, says agentGO's Carvallo.





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A low-angle, blue-tinted photograph of a city street. The street is covered in a thick layer of banana peels, which are scattered across the entire surface. In the background, several tall, modern skyscrapers with glass facades rise into the sky. The perspective is from a low point on the street, looking down the road towards the buildings. The overall mood is one of irony, as the phrase 'Go ahead.' is placed on a surface that is clearly a slip-and-fall hazard.

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# Running on Their Platforms

Vendors try to set their products apart,  
but seeing the differences is often difficult

BY JENNIFER DEJONG

Picking the right product was tough enough when an application server was just an application server. Based on the Java 2 Enterprise Edition standard, technically they were (and still are) virtually identical.

Now that vendors position their offerings not as app servers per se, but as the core component in a comprehensive e-business development platform, the problem is only compounded.

As e-business platforms evolve, the products look more and more alike. Wrapped around the J2EE-based application server is a suite of components geared to address just about every technical and business capability that a company needs in order to build, deploy, maintain and extend the multiple Web applications that most manage today. Components include commerce servers and integration servers; modules for B-to-B, B-to-C, shopping carts, credit-card authorization, personalization, content management and customer relationship management; as well as those that offer support for XML and mobile devices.

And across the board their vendors make essentially the same claim: "It's better to buy it all from us," they say, citing "better integration" and "more complete solutions"—though it's not readily apparent what such generalities mean.

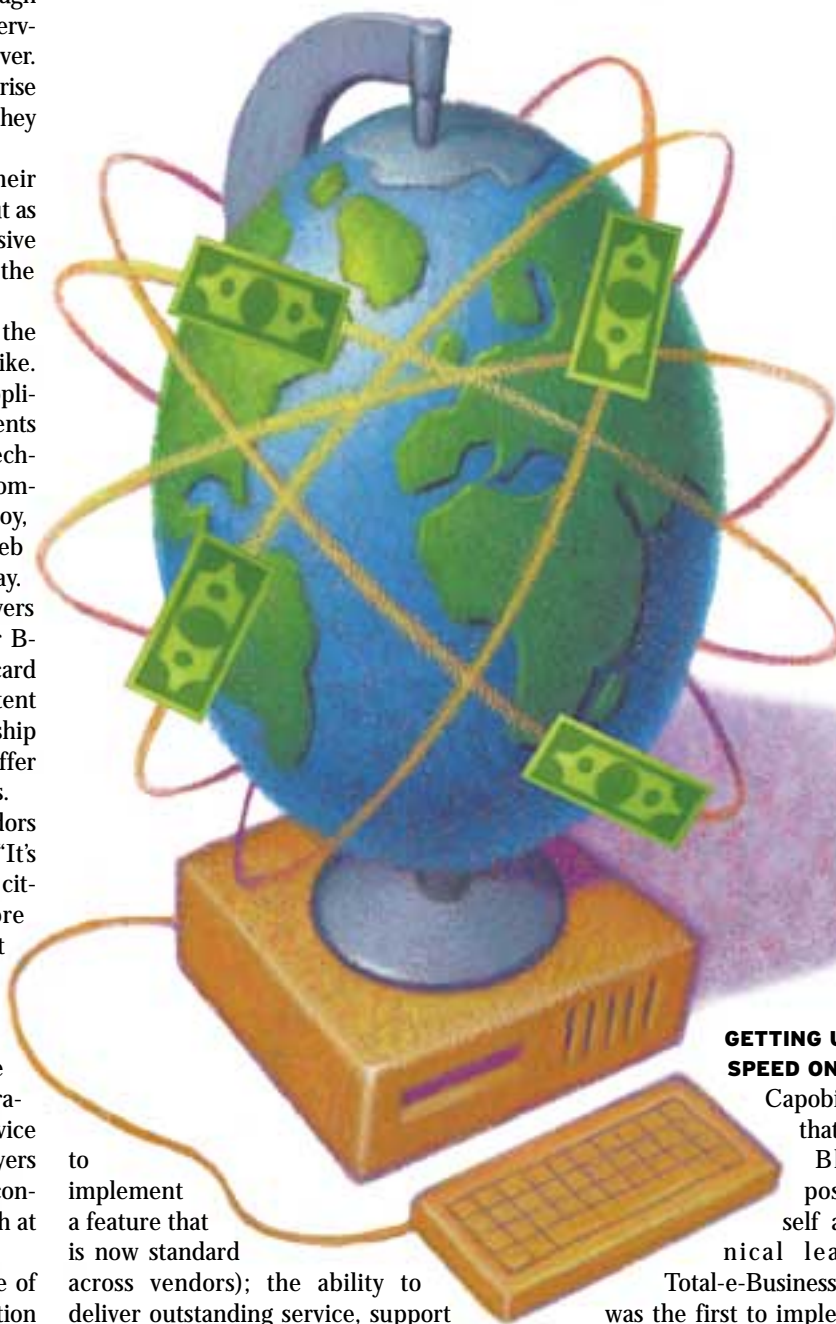
The message is more confusing than ever. "You have the basic issue of 'best of breed' versus 'better integration,'" said Daryl Plummer, group vice president at Gartner Group Inc. Buyers understand there is a fundamental contradiction there—you can't boast both at the same time, he said.

In light of all this, we asked some of the vendors out there how they position their products. In general, they were guarded against making outright claims of technical superiority and admitted, however reluctantly, that they share more common than uncommon ground with their competitors. "Because of J2EE, there is a basic, foundational similarity," said John Capobianco, senior vice president and chief marketing officer at Bluestone Software Inc. (www.bluestone.com), which was recently acquired by Hewlett-Packard Co. "You can compare apples to apples," he said.

Vendors were careful to differentiate their offerings on the basis of more subjective criteria, which include issues such as technical leadership (being first

to implement a feature that is now standard across vendors); the ability to deliver outstanding service, support and training; or the resources to serve a global customer base. They also emphasized the increasing importance and efficiencies of a single development platform, as it becomes commonplace for companies to manage more than one Web application. And, of course, more than anything, the big players rely heavily on their impressive customer lists to win new accounts.

To run their stories through a reality check, we talked to some of the better-known analysts who cover the space, asking them to punch holes in the vendors' arguments and to share their views on the future of Web application development.



## GETTING UP TO SPEED ON JAVA

Capobianco said that although Bluestone positions itself as a technical leader—its Total-e-Business platform was the first to implement features such as the EJB Server, XML integration and, more recently, Pure Java JTS transactioning implementation—at the end of the day, customers tend to care more about service and training issues. "You have to have cutting-edge technology," he said. "Beyond that, it's an issue of how well you help customers succeed."

That's especially critical, given the continuing shortage of and increasing demand for Java skills. To that end, Bluestone offers online tutorials, called trail maps. Aimed at helping customers develop applications faster, they

spell out, for example, how to build a Java engine or an EJB, and also include the associated code. In addition, the company emphasizes its technical support resources such as listservs, browser-based documentation, phone and e-mail support and, more recently, support for the Hot Dispatch technical support service (www.hotdispatch.com).

But no one company supplies greatness everywhere, admitted Capobianco, adding that Bluestone does not offer services such as personalization, but recommends customers plug in best-of-breed applications from companies such as Net Perceptions Inc. (www.netperceptions.com).

## MANAGING MULTIPLE WEB APPS

SilverStream Software Inc.'s e-Business Platform (www.silverstream.com) is perhaps best known for portal framework and XML capabilities. And although it readily admitted that the application server piece of the package has become a commodity, the company clearly positions itself as an e-business development platform vendor, emphasizing the benefits of buying from one company.

Doing so has become increasingly important as companies move into the next phase of Web development, in which it is common to build and manage several separate but inter-related Web applications. That might include, for example, separate sites for e-commerce, customer service and business partners, said SilverStream's director of product marketing for e-business solutions, Coco Jaenicke. "The idea of approaching e-business from an app-to-app point of view is dead wrong," she said. "You have to look at it from the platform perspective. 'It's like building a house—a single source is just more practical.'"

Efficiencies are gained primarily through the reuse of skills and reuse of code across applications. Changes—say the price of a product—made on the e-commerce site may have an impact on the B-to-B site as well. In order to manage that process



SilverStream's Jaenicke says a single source is more practical.



A foundational similarity exists, says Bluestone's Capobianco.

► continued on page 21



# One-Stop Shopping: A Favored Method

BY JENNIFER DEJONG

Without exception, the analysts we talked to agree that when it comes to e-business platforms, it is better to buy from one company. They say that the vendors' claims of "better integration" are true—that pieces of an e-business platform interoperate more easily when they come from a single vendor.

Does the fact that all the players claim "better integration" cancel out the competitive advantage? Not necessarily, said Mike Gilpin, vice president and research leader at Giga Information Group Inc. "It pays to look under the hood." Many vendors extend their platforms by buying companies that have the piece they're missing, and they may not have done the work to integrate that piece with the rest of the suite, he said. But he refrained from naming cases where this was so.

Another caveat: Web development technology is evolving so rapidly that all e-business platforms are works in progress. This is not so much a matter of vendors' making false claims, but a question of the story being sold versus the present reality, said Gilpin.

"In the long run, going with IBM or BEA will not make or break the company's strategy," said Daryl Plummer, group vice president at Gartner Group Inc. The differences come down to a minuscule

level of detail. "On a technical level, you could flip a coin," he added.

Analysts agree that IBM Corp. has a leg up in terms of its ability to provide tools for developing foreign-language sites. They said that this distinction is part of an evolving trend, where business, not technical, factors will begin to take center stage as the big differentiators. "The e-business platform decision is becoming a business decision," said Plummer, adding that he thinks this is a good thing. Analysts also say that the ability to provide service, support and training will become increasingly important.

In terms of independent software vendors' adopting e-business platforms, analysts didn't dispute that BEA Systems Inc. has a proven track record. "But what ISVs care about is J2EE," said Peter Urban, senior research analyst at AMR Research Inc. Naturally they are drawn to the market leaders—not just BEA's WebLogic, but IBM's WebSphere as well, he said.

Speaking of market leaders, you can't overlook Microsoft Corp., said Urban. The company's Web application development strategy differs radically from that of the players in the Java camp. It integrates what it calls its core application services with Windows 2000. According to a Microsoft spokesperson, those services include COM+, Internet Information

Services 5.0 (IIS), Microsoft Data Access Components (MDAC) and Microsoft Message Queuing (MSMQ). Its newly announced .NET enterprise servers, including Application Center 2000, BizTalk Server 2000, Commerce Server 2000, Exchange Server 2000, Host Integration Server 2000 and Internet Security & Acceleration (ISA) Server 2000, will round out the solution when they hit the market later this year.

When it comes to Web apps, one of Microsoft's key advantages, said Bill Dunlap, group product manager for e-business solutions, is its huge developer base. "There are 6 million programmers out there who know Visual Basic and Visual InterDev," he said, adding that some analysts estimate that 70 percent of Java projects will fail due to the enormous talent shortage.

## BRING ON THE WEB SERVICES

Web services represent the next step in component-based development, said Gartner's Plummer. They are a move toward what he likes to call "an agile enterprise," in which Web application development entails a whole lot less "gluing" and much more "Velcro-ing."

"We are not as bullish on [Web services] as Gartner is," said Giga's Gilpin.

"We think lots of projects will make use of them—well over 50 percent." But applications won't be built from them entirely, he added. "There are not enough of them out there yet."

The trend got a big boost last summer when Ariba, Bluestone, Commerce One and a host of other companies lent their support to the Universal Description, Discovery and Integration (UDDI) specification (www.uddi.org). UDDI is essentially a registry where developers and companies can register the products and services for others to discover and use in their applications.

Although the concept of Web services is plug and play, for now at least they aren't really "write once, run anywhere," said Urban. "But it's close." As a result, he predicts that the ability to develop these components will be a key factor in determining which vendors dominate the e-business development platform market. "The guys who can develop more business components than others will have more clout." The number of vendors in the space will diminish over time, he said. "It's like the database market. Ten years ago there were more than a dozen players. Now there are only three big ones," he said, referring to IBM, Microsoft and Oracle. ■



**A huge developer base gives Microsoft an edge, says Dunlap.**

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## PLATFORMS

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effectively, it's critical to have a consistent business model across the sites. An e-business development platform is the underpinning for that strategy, Jaenicke said.

### ATTRACTING ISVs

BEA Systems Inc. (www.bea.com) was first to market with a J2EE application server—now the core piece of its BEA WebLogic E-Business Platform. WebLogic is widely recognized as the market-share leader for e-business platforms, alongside IBM's WebSphere Commerce Suite (which trails or ties with WebLogic, depending on which analyst you talk



**Globalization is a differentiator, says IBM's Carter.**

to). Like its competitors, BEA emphasized "better integration" as a key benefit of its platform, pointing out that the entire platform, not just the application server, is based on Sun's J2EE specification. "That is not

the case with IBM's WebSphere," said John Kiger, BEA's director of product marketing.

He also stressed the importance of being able to manage multiple Web applications from a single console, and the huge efficiencies that result from reusing skills and code across those applications. But chief among the factors differentiating BEA from its competitors is that its WebLogic platform has begun to be widely adopted by ISVs, including Broadvision, Ariba, Vignette and Blue Martini. "To be a platform, you have to have ISV adoption—it's like Windows," said Kiger. That's not the case with BEA's competitors, he added.

### GOING GLOBAL

Nothing serves a vendor better than a big name, so it's no surprise that its huge global customer base has benefited IBM in positioning its WebSphere Commerce Suite against the e-business platform offerings of its competitors.

As Web development moves into the next phase, companies are not only routinely managing more than one application, they are also developing sites to serve markets and countries

outside of the U.S. IBM said its key advantage is the ability to help companies develop and support global Web applications. "You need an e-commerce server that lets you play into multiple markets," said Sandy Carter, IBM's vice president of e-commerce marketing. "We are the only company

that can offer a global solution, supporting multiple currencies and multiple languages," she added.

Building global sites also requires extensive knowledge of each country's customs and traditions. "For example, you can set a cookie on someone in the U.S., but it is illegal to do so in

France," said Carter. That's an expertise that IBM's competitors in the e-business platform arena don't have, she added.

But competitors are quick to point out that the company's WebSphere Application Server does not comply with Sun Microsystems' current J2EE specification, version 1.2. (Ear-

lier this year, Sun announced version 1.3 of J2EE, which offers increased support for XML and upgrades to Enterprise JavaBeans, Java Server Pages and servlets.) Although IBM initially dismissed the importance of complying with the spec, it is currently seeking certification, analysts said. ■

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## EDITORIALS

## Sun v. Microsoft

Some companies just can't play nice with each other, and there's no better example of that today than Microsoft Corp. and Sun Microsystems Inc.

When Sun allowed Microsoft to license Java in 1996, did it really think that Microsoft would abandon its famous "embrace and extend" business practices? When Microsoft tried to make sure that Java applications written to exploit Windows' features would break Sun's "write once, run anywhere" philosophy, did it really think that Sun wouldn't notice?

Sun noticed. And it sued in 1997, arguing that Microsoft violated the terms of its Java license. (Probably true.) Microsoft rebutted the claims, saying that Sun simply wanted to dominate Java and stifle innovation that it couldn't control. (Also probably true.) The case dragged on and was only settled in late January—but the acrimony continued.

Who won? On paper, it appears that Sun did, as Microsoft is paying \$20 million to settle its claims, and can only continue using Java on a restricted basis. But is that truly a victory?

For the past four years, Microsoft has tolerated Java; one could argue that it has even supported it by offering the Visual J++ development suite, and by including Java in many of its products, including Internet Explorer. Now that the lawsuit has been settled, and not in Microsoft's favor, we think that Redmond will do its best to kill it, along with the Java 2 Enterprise Edition specification.

## .NET v. J2EE

The first salvo was fired before the ink on the settlement agreement had even dried. Microsoft's "JUMP to .NET program" is billed as providing "the easiest transition for Java developers into the world of XML-based Web services and dramatically improves the interoperability of the Java language with software written in a variety of other programming languages." Like C#, Microsoft's intended Java killer, perhaps.

Will Microsoft succeed in enticing a critical mass of J2EE developers to .NET? Bill Gates and Steve Ballmer certainly have a formidable track record when it comes to crushing competitors. But Microsoft isn't what it used to be: Not only are top managers fighting J2EE, they're also distracted by a battered stock price, continuing legal woes and slower-than-expected adoption of Windows 2000.

And Sun is no pushover. Scott McNealy's Java Community Process has produced strong allies. And the legions of Java and Linux developers and enthusiasts will provide grass-roots resistance fighters that Microsoft can't match.

We're pleased with the way everything worked out. Java is too important to allow the language to be fractured, at least this early in its development. Sun should be able to retain control of its platform. But equally, Microsoft's ideas for .NET, Web services and C# are innovative and, in many ways, compelling.

A strong Microsoft and a strong Sun, at each other's throats, will keep either from becoming complacent, and the fight between .NET and J2EE can lead only to improvements in both. Thanks to the settlement, we now can have hope that it will be a clean, fair fight. ■

## GUEST VIEW

## SUBJECT MATTER EXPERTS: THE GROWING SCARCITY

We hold them in the same high regard as monks in medieval times, as an elite group of specialists able to read, write and edit a nearly extinct language. In the monks' case, the language was Latin and the subject was the Bible. Today, in IT, we're talking about subject matter experts (SMEs): specialists with deep knowledge of the legacy languages and your legacy systems. In most IT organizations, SMEs carry the burden on software projects (language and database conversions, legacy-to-Web externalization, major enhancements). Simply put, there are not enough of them, and their numbers are dwindling.

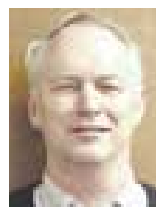
The SME shortage reflects several IT trends: Programmers who originally wrote legacy source code are retired or departed, and new programmers don't stay around long enough to fully learn systems. Making it worse, the documentation is outdated or nonexistent. Software project work is outsourced to consultants new to your code, which continually changes—and the systems are ever more complex, with multiple languages, making projects more difficult to understand.

We can do one of two things to fight this problem: Either try harder to develop more SMEs, or look to new technologies that make programmers smarter. I strongly urge the latter course. Programmers must be freed from the line-by-line view of software to which they are currently confined. Just as the Windows graphical interface liberated PC users from the mysteries of DOS and ASCII text files, so too must programmers be given a graphical view of systems that liberates non-SMEs from the pain of untangling applications.

New technology is emerging that addresses this need. It's called application analysis technology. It parses source code and copy books and graphically displays on PCs the code's key characteristics, such as all module-to-module communications, calls to external files and all variable uses.

Application analysis tech-

nology can reduce application life-cycle costs by up to a factor of 10, according to a leading IT analyst firm. With it, some tasks, such as mapping all module-to-module communications, that typically take weeks or months can be finished in a few hours. Its impact on easing complex software projects, as well as software QA and testing, can be significant.



ALLEN G. BURGESS

This technology provides several basic capabilities. It simultaneously spans front-end e-business languages and back-end legacy languages, while generating graphical diagrams of code independent of programming languages, simplifying code comprehension.

A graphical source analyzer should be able to help developers visualize all communication within an application, whether module-to-module, within a module, or to and from data files or databases. It should also help developers understand the logic flow within the application.

At the heart of this technology is a powerful parsing engine, which analyzes and displays the essential characteristics of applications in real time. The parser classifies the source code's functional and operational components, providing an application road map. Source code can be examined for dependencies across multiple modules, languages and other applications through a broad and drillable view of the system.

Let's take a typical project now being undertaken across the industry: externalization of legacy systems and data onto the Web. To do this successfully, programmers need complete awareness of how an application's logic uses data located in both databases and external files. Application analysis provides the ability to scan through source code looking for all the points that interact with the physical world of databases and data sets. The technology parses source code, pictorially representing all interaction with database tables and external files.

Or take another typical software project, a database conversion. Application analysis can cut through much of the tedious, time-consuming tasks that make these projects such a resource drain. Typically, the conversion would take place on a table-by-table basis and the programmer would have to see all interactions to a particular table before it can be replaced by a call to the new database format. In addition, any source module that interacts with a table to be replaced must be checked to see if it simultaneously interacts with a different table.

Application analysis creates a relational database of information that can be queried to show all interactions with a particular table. The results of that query can then be used for a subsequent query asking which of these source modules interact with other tables.

These capabilities allow the user to document source code for an application and see the impact any changes made to a particular module, external file, database or called routine will have on other modules inside that application.

Application analysis technology lets programmers zero in on a variable's usage anywhere inside the application's source code. That ability creates an environment of rapid bug detection and impact analysis. If users discover that a particular variable is receiving incorrect data, they can quickly view the effect that has on the logic flow of the other modules. Changes can be made while fully understanding the effects the change will have on the rest of the application.

This technology is essential for organizations struggling to keep up with their complex project work. It expands the subject matter expertise in your organization, lifting more of your programmers out of the trees and enabling them to see the forest and the landscape beyond. ■

Allen G. Burgess is president of Waltham, Mass.-based Data Integrity Inc., a software engineering technology company. Reach him at [aburgess@dii2000.com](mailto:aburgess@dii2000.com).



## MANAGING WEB PROJECTS WELL

The process of developing a public-facing Web site is quite different from the process of building an ordinary application—and in many ways, much harder. That's contrary to many development managers' instinctive opinion. You'd think the fact that the client environment is predefined and that communication uses well-known protocols would make the application a breeze.

But it's not just the technology that makes Web development tricky. A project manager has to manage very rapidly changing requirements and accelerated schedules set by a jittery line-of-business department that is not used to interfacing with the IT department, as well as deal with artists, writers, editors, lawyers, brand specialists and other professionals who are not involved with the software development process.

Ashley Friedlein's well-written book "Web Project Management" bridges the gap between general project-management titles and the plethora of purely technical books on Web site design and implementation.

Although in some areas his book could use beefing up—he barely talks about how the project manager should guide the process of determining the site's functional design and technical underpinning—his advice would be of value to a development manager new to the Web site management process and not sure exactly of what needs to be done, or in what order.

Friedlein, who worked as a video producer before venturing into the Web world by

building content-heavy sites for such clients as the U.K.'s Channel 5, correctly views Web site creation as a project-management challenge—not as a technical issue. You won't find arguments over ASP vs. JSP or whether Apache or Netscape is the better Web server. That's good. There are plenty of other venues for those debates.

Instead, he focuses on the project itself.

Early in this extremely readable book, he breaks the Web development process into four major phases: preproduction, production, maintenance and evolution. The preproduction and production phases are each broken into three smaller work stages. These ten steps, reminiscent of the waterfall model, are well defined in the world



of video production; although Friedlein's terminology isn't a usual part of the software development lexicon, these phases map well into the world of Web site management. Most of the book is spent working through each of these ten areas in detail.

While reading the book, I found my head frequently

nodding in agreement. It's common knowledge, for example, that a successful Web project requires a high-level sponsor within the organization, preferably at the top of the executive org chart. Yet how many initiatives fail because they never achieved that backing? Far too many, and Friedlein hammers that point home.

He also brings up points that a technology manager might not consider, such as tracking down a corporation's branding guidelines early in the design process and not after a prototype is rejected by the marketing department.

Because Friedlein's emphasis is on content-rich sites, he understandably places a lot of emphasis on content creation and gathering. He urges managers not to take the client's promise that "yes, we have lots of content in easily accessible formats" at face value, but to also acquire samples of files and test database access methods, and test to ensure that the data is, in fact, in a format that can be readily processed.

It's also important, he says, to determine the project manager's role in the content. Will the project manager need to hire writers? Who will enforce deadlines? Who will edit material for grammar, relevance and style? Who will determine the style, for that matter? Friedlein pragmatically suggests that, where possible, the client interface with the creative talent, so that if something goes wrong, it's not the Web project manager's fault. That's the voice of experience talking.

I wish Friedlein had more

advice for project managers seeking to pin down the functional specification of the Web site. He does advise that it's best to be very detailed, to prototype early and often, and to make sure that the client signs off. But what if the line-of-business managers or corporate executives who are paying for this Web site have no idea of how the site should work, or what the user experience should be (other than "Make it like Amazon.com, only profitable")? I'd like more suggestions as to how a Web project manager can create a solid site design, and then a technological architecture, under those frustrating circumstances.

But the devil is in the details, and that is where Friedlein excels. In each of the ten major development phases, he covers all the bases—and he's certain to mention items that even a moderately experienced Web project manager will overlook. He has obviously been burned by browser incompatibilities, for example, and he provides some general ammunition to help Web project managers defend the need for thorough testing to a client who becomes antsy.

Who should read this book? Technical managers new to the Web, particularly those used to the more mature and cut-and-dried world of software project management. It's a different world, where the technological problems are the easy ones. ■

"Web Project Management," Ashley Friedlein. Morgan Kaufmann, 2001. Trade paper, 324 pages, \$39.95.

Alan Zeichick is editor-in-chief of SD Times.



BOOK WATCH

ALAN ZEICHICK

## THE ENVELOPE, PLEASE

In our "out with the old, in with the new" contest announced in our Jan. 1 issue, the challenge was to match the old names of software companies, such as Cambridge Interactive, KL Group and Object Switch, with their new, trendier monikers.

Out of the nearly thousands of correct entries received, we picked three lucky winners:

**Sunil Cheruvu, 3Com Corp.**

**Hristo Tonev, Oracle Corp.**

**Steve Gore, Computer Task Group Inc.**

The prize is a Palm m100 handheld organizer. (Sunil, you should have picked one up before 3Com spun off Palm.) For a complete list of the questions and correct answers, see our Feb. 1 issue, page 42.



### CLARIFICATION

In "ScanSoft Integrates Forms Into the Web," (Dec. 15, 2000, page 5) it was implied that ScanSoft Inc.'s OmniForm software includes the ability to process digital signatures. Actually, the company says that OmniForm is "digital signature ready"—although OmniForm can create digital signature fields on forms, users can digitally sign those forms only if they have the appropriate digital signature software installed.

### WHAT DO YOU THINK?

SD Times welcomes feedback. Letters must include the writer's name, company affiliation and contact information. Letters may be edited for space and style and become the property of BZ Media.

Send your thoughts to letters@bzmedia.com, or fax to 516-922-1822.

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## CAN LINUX FLOURISH IN THE ENTERPRISE?

No one can doubt the extraordinary run of success Linux has enjoyed over the past four years. During this time, it has progressed from being yet another PC operating system with open-source code, to being the preferred open-code operating system, to being the first operating system to legitimize open source, to being the first open-source operating system to be accepted by IT in the enterprise—which is where it stands today.

This remarkable record of achievement is due in large part to a wild band of evangelists who helped to push and promote Linux. At each stage, the exponents became more traditional and less woolly, and with their growing ranks came IT acceptance. To be sure, acceptance of Linux was accelerated by the willingness of major software vendors (first WordPerfect, then Oracle, then IBM) to release flagship products for the platform; however, the killer app that brought Linux into IT was undoubtedly the Apache Web server. Linux was there at the right time. Apache was a good Web server and Linux a stable platform. Its leading rival, at least on Intel systems, was IIS on Windows NT, and IIS certainly was not ready for prime time, nor was NT viewed as sufficiently stable.

For Linux to really flourish in the enterprise, however, it will need to break out of this niche. The options for doing so are limited, but they do exist.

The first is through the least likely breakout venue: the desktop. The past few years have seen great progress in the Linux desktop. The GUI—whichever version you prefer—masks the Unix command line well and allows for fairly intuitive interaction. In addition, Sun's StarOffice and Corel's WordPerfect give Linux productivity tools roughly comparable to Microsoft's Office.

The difficulty Linux faces on the desktop is that it does not offer anything that is compellingly better, in the eyes of IT management, than Windows. Apache on Linux was compelling when compared with the stability and features of IIS on NT and to the price of Sun's solution. But PCs running Windows and Microsoft's Office do not suffer any great disadvantage when compared with Linux boxes. So, there is little reason to add the complexity of Linux to the computing infrastructure or likewise to the laptop and the workstation.

(Note that even a compelling advantage might not be sufficient. Consider,

for example, the difficulty the Macintosh has had breaking out of its own niche, despite having better multimedia features, a better interface according to many users, and a variety of other advantages over the PC. In addition, it runs Microsoft's Office. If Apple cannot do it, then Linux—which does not enjoy the specialized desktop niches that Apple has—is unlikely to break out on the desktop.)

### MIDDLEWARE WATCH



ANDREW  
BINSTOCK

A second possibility is the database server market. Oracle and IBM have ported versions of their databases to Linux, and yet Linux is rarely seen running databases in the enterprise. Historically, this is attributable to the lack of robust support for multiprocessing in previous versions of the Linux core.

With the advent of the 2.4 kernel, this is supposed to change. If it does, then there is a distinct possibility that departmental servers will become a new opportunity for Linux.

To score a success here, however, support for Linux as a database operating system will have to be established. It's unclear whether companies such as Red Hat have the ability to support mission-critical databases running on Linux. I hasten to add that it's not clear Microsoft offers any better support. And for this reason, Microsoft is indeed fighting for its share of departmental servers

as well. But Microsoft has the decided advantage of a large number of consultants and trained Microsoft Certified System Engineers (MCSEs). Of course, its disadvantage is its historic purveyance of unstable systems, which is baggage Linux has never had.

The third, and I believe most interesting, is infrastructure servers. These are servers such as middleware messaging servers, firewalls, Web servers, encryption servers, file servers, application servers, load balancers and the like. Most of these servers have aspects ideally suited to Linux. I have already discussed Web servers. Other kinds of servers, such as file servers, are configure-and-forget propositions. The underlying operating system is immaterial. Application servers frequently need only to run J2EE components; while others, such as load balancers, run dedicated software. In every case, Linux can deliver the base operating system, especially if the multiprocessing aspect of the 2.4 kernel is improved sufficiently. The one obstacle for success here is support. Who will provide this? Can the software vendors? Can Red Hat? Will IBM? Solve this problem and Linux is likely to find infrastructure servers are its avenue into the heart of the enterprise. ■

*Andrew Binstock is the principal analyst at Pacific Data Works LLC. Reach him at [abinstock@pacificdataworks.com](mailto:abinstock@pacificdataworks.com).*

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## BROKAT

< continued from page 1

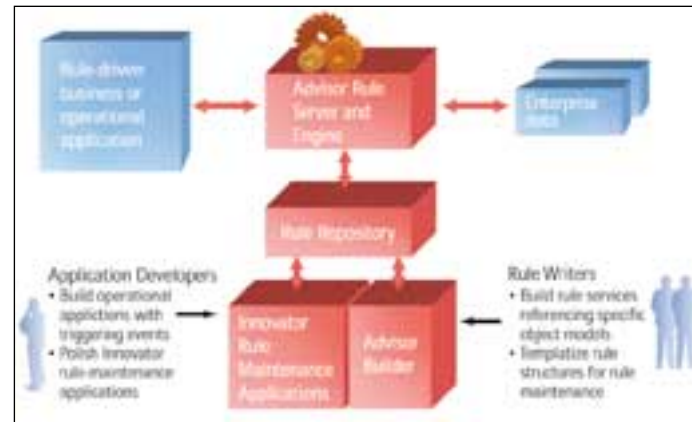
tool that can be used across multiple vendors' Java platforms, including not only Brokat's Gemstone/J, but also BEA's WebLogic, IBM's WebSphere and Sun's iPlanet application servers. It also supports Microsoft's MTS/COM+ on Windows NT 4.0 and 2000, Kilbreth said.

Being a multiplatform player is new for Brokat (www.brokat.com), said Kilbreth, as the company historically offered

CORBA-based solutions for the high-end financial services market, where scalability, rather than vendor interoperability, is a prime consideration. Since Brokat's acquisition of Gemstone Software, also last September, the company is more focused on J2EE solutions, he said. "In no way, shape or form are we specially focused on financial services," Kilbreth said. "We make rules engines for building applications, and it's totally horizontal. As soon as you say custom apps, that's us." He cited as an example a car

manufacturer that might use a packaged ERP solution but needs to be able to handle warranty claims from numerous dealers over the Internet.

The company's new Advisor suite is made up of three main products: Advisor Builder, a design tool for the development of object models; Advisor Innovator, which gives nontechnical business people the ability to create and change business rules using business terms and Web browsers; and the Advisor Rule Server and Engine, which is used to deploy and update



Advisor Solutions Suite allows nontechnical people to write rules.

## VSA

< continued from page 1

grammability, added that by building new object models that expose the events and properties of the objects, ISVs could package the application featuring the new VSA architectural pieces—which consist of a integrated development environment for writing custom code, and a runtime environment—with more confidence to the enterprise. In this fashion, enterprise developers would no longer have to go back to the ISV when they

wished to customize an application, or to seek code to customize it themselves.

"When developers at the enterprise who purchased the application want to customize any part of the program, they can simply look at what events and properties have been exposed by the ISV in order to change its behavior, rather than go deep into the code," Gocinski said. "The VSA approach is to look at it as event-driven programming. Because the code that enterprise developers write is triggered on events, they just need to know the

objects and their events," he said. He added that enterprise developers don't even need to understand the underlying code to create new code. Being language agnostic, even APL, COBOL, FORTRAN and RPG developers could use it to change Web application behavior because the VSA environment, which uses the familiar Visual Studio editor, is based on Visual Studio.NET, part of the .NET Framework, Gocinski said. He added that ISVs could write in C, C++, C# or even Visual Basic, in addition to those older languages. ■

the rules services.

The rules application generation wizard is included as an upgrade to the Innovator product, Kilbreth said. The wizard allows the creation of reusable templates for rules management, and a new Innovator Web Application Generation utility will automatically generate a complete rules maintenance application from the template, he explained, providing reusability and consistency within an organization.

The new support for XML is important for enterprise development shops that are writing applications that need to interact with applications from busi-

ness partners. The new release supports the October 2000 XML schema specification from the World Wide Web Consortium and supports DTDs.

What is unique about Advisor, Kilbreth claimed, is its support for both J2EE and Microsoft's MTS/COM+ environments.

Available now, the Advisor Solutions Suite is priced at around \$200,000, Kilbreth said, for a project-level buy of four CPUs. The design tools are \$15,000 per named user with the usual project-level purchase being three kits, while the rules server and engine is \$30,000 per CPU and the Innovator runtime is \$10,000 per CPU. ■

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## THEIR SIMON

Developing Web-based services is rapidly becoming the dominant form of software development. MySimon.com, the most trafficked price-comparison site on the Web, is a pioneer in pure-service Web offerings. They don't make products; they don't ship products; they don't use the Web as a delivery mechanism for traditional services. They have clicks but no mortar. Their value derives from their content, but to compare them to a Slate, a Salon or even an Epinions is to miss the crucial distinction between value derived from interesting things written by humans and real, money-in-the-pocket value derived purely by software mediation.

Even if you've never used MySimon.com, you undoubtedly have a concept of what they do. The idea of agents, or 'bots, that travel around the infoverse gathering useful information predates the Web and has always been popular with that class of visionary that doesn't worry about actual implementation. But reliably retrieving data from pages written in HTML is a frustrating task. And doing so in a way that's scalable to the 5.2 million unique visitors that MySimon served in December 2000 is a challenge that would give pause to the most confident architect.

I recently spoke with John McDowall, chief technology officer of MySimon, about the techniques and technologies that have powered MySimon's success. The dominant theme was pragmatism—

focus on the business task at hand (give consumers the information they need to make an informed purchase) and not on the technology. The genesis of MySimon was the concept of price comparison, not agent technology per se. Yeogirl Yun, the co-founder of MySimon with Michael Yang in 1998 (CNet Networks acquired MySimon last year for \$736 million), developed the Virtual Learning Agent technology used by MySimon, which McDowall describes as taking a middle path between the extremes of clerks hand-transcribing product information and an artificial intelligence able to comprehend any pricing page. MySimon doesn't even necessarily attempt to comprehend a single vendor's site with a single agent; their current arsenal is approximately 9,000 agents designed to glean pricing information from 2,200 merchants. Non-programmers use a proprietary language to script agents with an emphasis on simplicity, minimizing the cost of adding new vendors or dealing with a redesign.

I was shocked when McDowall explained that in addition to agents that crawl merchant sites multiple times per day, agents for particularly volatile or esoteric commodities like books and film may be spawned in real time. Even trying the most esoteric titles on my bookshelf, the response times never seem to exceed 15

seconds. Doubly impressive is McDowall's assertion that MySimon's inbound data traffic is as great as its outbound.

Given this reliance on networking, I wasn't surprised to learn that the underlying technology was Java. Again, it was a pragmatic decision: Java provided "fast development and adequate performance." Pressed on the issue of performance, McDowall dismissed the idea of counting CPU cycles. "Network latency is key," he said, and performance arises from a heavily threaded system and extensive multilevel caching.

What did surprise me a little was that the back-end operating system was Windows NT running on "fairly standard" low-cost boxes that are hosted at AboveNet's Silicon Valley server farm. The system has proved scalable in multiple directions, and although McDowall demurred to provide exact numbers, last year MySimon experienced "several hundred percent" growth in traffic while only doubling the number of servers. The key to scalability? "Keeping state out of the servers." While MySimon does cache price and query data for several hours, several times McDowall mentioned the importance of keeping the system as stateless as possible.

Regular readers of this column know that I think XML is a cornerstone technology for Web services. Once again, McDowall was pragmatic on the issue: While "most of the site is driven by XML," he had little good to say about

XML standards such as SOAP and ebXML. While XML solves some problems, it causes others, he said, pointing in particular to its bandwidth inefficiency, where a SOAP-based price quote would likely have more data associated with its envelope and tags than with the quote itself. On the other hand, XML allows MySimon to provide a WAP version of the site with little difficulty.

In regard to analytics, "we live and die by the stuff," said McDowall; mountains of data are run almost on a daily basis. For this work, McDowall praises NetGenesis, which "gives us insight into the traffic better than anything else I've seen."

At first glance, a price-comparison Web site seems like a straightforward Web service; at second glance, the difficulties seem daunting. MySimon has succeeded in creating a successful, pure-service Web offering. When asked what the keys to their technological success were, McDowall pointed not to specific technologies, but to an emphasis on matching "the right tool to the job." Finally, he criticized the fear, uncertainty and doubt that threatens to replace the spirit of innovation. Speaking to SD Times readers, he said, "Don't be constrained by what people tell you to do. Don't be afraid to try something new; we're inventors." ■

*Larry O'Brien, the founding editor of Software Development Magazine, is a software engineering consultant based in San Francisco. Reach him at lobrien@email.com.*

### WEB WATCH



LARRY O'BRIEN

## THE PHANTOM SOLIDIFIES

I've been avoiding writing about .NET for a while. After all, it gets uncomfortable penning opinions about platforms that haven't seen the light of day. But on the other hand, Microsoft is continually bombarding us with info about its new development darling, so I'm returning to the well.

This time I'm back to eat a little crow. In an earlier column within these hallowed pages ("Visual Basic: Not Dead Yet," Nov. 1, 2000, page 37), I opined that Microsoft intended to wean present day Visual Basic 6 developers away from Visual Basic and onto C#. I'm still not entirely convinced that this isn't their long-term intention, but it's obviously not a short-term consideration as Visual Basic.NET has turned out to be far more robust and carefully planned than I expected.

In fact, it's so robust that it bears little resemblance to Visual Basic 6 at all. Upon querying real-life Visual Basic 6 developers who are also keeping an eye on the .NET embryo, this opinion was verified in a somewhat bellicose manner. Seems like many Visual Basic 6 developers are a bit turned off not just by new features, but by core differences between the two environments as well.

While there are numerous tangible

differences between Visual Basic 6 and Visual Basic.NET, the primary difference seems to be intangible: Visual Basic.NET can be dangerous. Where Visual Basic 6 took great pains to keep mediocre programmers from hurting themselves or their users, Visual Basic.NET drops much of the protective padding and leaves it up to you not to hurt yourself. Along with new logic and a new runtime, for example, Visual Basic.NET adds the ability to easily employ threading. But it's up to you not to use it in such a way as to blow up your application one fine day.

The problem is that many Visual Basic developers adopted the language because it was easy—no computer science degree required. It also shielded them (and their IT managers) from making major enterprise-damaging mistakes. Visual Basic.NET may be a step up from Visual Basic 6 on the power ladder, but it seems to have sacrificed quite a bit in terms of safety and ease of use.

Microsoft even intends to release a more muscled sibling to that safest of all development languages: Visual Basic for Applications, or VBA. Where virus developers have made great use of VBA

to create robust Microsoft Office macro viruses, Microsoft now intends to release an even stronger interapplication customizing tool, dubbed Visual Studio for Applications, or VSA—though I'll admit it's unclear whether this will replace VBA or simply exist next door.

VSA jumps way ahead of VBA on all kinds of fronts. For one thing, it's based on the .NET runtime engine, not just Visual Basic. And, because it's coming out of VS.NET, VSA will be allowed to use the .NET Common Language Runtime, which means you can develop VSA code in any VS.NET programming language—C++, C# or Visual Basic. The runtime itself will be easily integrated into other applications and allows VSA programmers (and their wary IT managers) to use .NET security mechanisms. Certainly a step up from VBA, but again, not something to be picked up overnight by the uninitiated.

Not to mention that VBA is available to anyone running a power copy of Microsoft Office. VSA can be used only within the .NET development environment, which means you'll need to deploy that to all your eager VSA users—and then sedate those that start having anxiety attacks upon seeing an interface other than Office 2000.

Again, whether VSA will sit next to

or supplant VBA is still unclear, and I'll tell you why. Similar to VBA, VSA is billed as a "customizing technology." Simply put, this means that when someone in accounting needs functionality out of Excel 2000 that Redmond never thought of, he simply dips into VBA to tweak Excel to do his bidding. VSA employs a similar concept, but seems intent upon doing so only on applications developed within .NET. In other words, the applications your programmers create with .NET can then be customized by your users or IT folk using VSA. Great thought—I'm just a little leery of forcing those users into the .NET IDE.

Bottom line: .NET has made many promises of increased functionality and power within the Win32/64 environment, but ease of use was really only mentioned in conjunction with C#—and that's still very much a dark horse. As such, you can understand where longtime Visual Basic developers might start to get nervous. To its credit, Redmond has said that it will continue supporting and even enhancing Visual Basic 6, but frankly, we've heard that song before, and most of us are still waiting for it to end. ■

*Oliver Rist is vice president of product development for rCASH in the REALM. Reach him at orist@therealm.com.*

### WINDOWS WATCH



OLIVER RIST



# JavaCon to Offer Certification at Java University

BY DOUGLAS FINLAY

The Java language will be front and center on the New York stage when the International Conference for Java Development (JavaCon) arrives at Broadway's Marriott Marquis for a

five-day engagement starting Feb. 26. The conference, which is expected by organizers to draw some 2,500 Java developers and others, will provide an aggressive course offering on everything from e-commerce tools and Web



development to mobile and wireless devices, and networking products and services.

JavaCon ([www.javacon2001.com](http://www.javacon2001.com)) is produced by Camelot Communications Corp., whose

CEO, Terry DeGuili, said, "[JavaCon] was designed for those developers that want to continue to deepen their Java knowledge and understanding,

have the opportunity to share their experiences with other developers, and have the opportunity to examine and explore vendor products directly."

Central to this year's conference is a two-day Java University event sponsored by Sun Microsystems Inc. to be held Feb. 26 to 27—right before the actual conference and vendor displays take place—that DeGuili says gets "down and dirty" with code-level teaching with one- and two-day programs.

Categorized into four different tracks, courses at Java University include Advanced Java Programming Language Techniques, in the Advanced Track; Java 2 Platform: Programmer Certification Fast Path, in the Certification Track; Developing Enterprise Solutions and Enterprise JavaBeans Specifications, in the Enterprise Developer Track; and Developing Solutions Using Java Server Pages and Servlets, in the Web Development Track.

Well-known Java personalities such as Bill Day, Martin Fowler, Peter Hagggar, Elliotte Rusty Harold, Tyler Jewell, Paul Lipton, Gregory Messner, Marco Pistoia, Ed Roman and Gerry Seidman will present or lecture at many of the sessions. ■

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## JAVACON 2001

### UNIVERSITY:

Feb 26-27

Marriott Marquis, New York

### UNIVERSITY HOURS:

Monday: 9 a.m.-5 p.m.

Tuesday: 10 a.m.-6 p.m.

### CONFERENCE:

Feb. 28-March 2

Marriott Marquis, New York

### CONFERENCE HOURS:

#### Wednesday:

Registration, 8 a.m.-6:30 p.m.

Sessions, 9:30 a.m.-Noon; 2:30 p.m.-5 p.m.

Night School, 6 p.m.-7 p.m.

#### Thursday:

Registration, 8 a.m.-6:30 p.m.

Welcome Introduction, 8:30 a.m.-8:45 a.m.

Sessions, 9:40 a.m.-11:50 a.m.;

2 p.m.-4:40 p.m.

Night School, 6:45 p.m.-8:15 p.m.

#### Friday:

Registration, 8 a.m.-6 p.m.

Sessions, 8:30 a.m.-10:40 a.m.;

2 p.m.-4:45 p.m.

Night School, 6 p.m.-7:30 p.m.

### EXHIBIT HOURS:

Thursday: 12:45 p.m.-6:45 p.m.

Friday: Noon-5 p.m.

### KEYNOTE SESSIONS:

Thursday: Keynote II: "XML, Web Services and the Importance of Java: Dialogue With the Experts," Ken North, 8:45 a.m.-9:30 a.m.

Other keynotes to be announced later.

[www.javacon2001.com](http://www.javacon2001.com)





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## A MERGER WITH MERIT

One company's stock has been foundering as it tried to compete in a crowded application server market, and posted a December-quarter loss of 33 cents per share. The other's stock hit a 1½-year low, falling from \$120<sup>7</sup>/<sub>8</sub> in July to \$30<sup>5</sup>/<sub>16</sub> at the end of January after warning of anemic growth and failure to meet prior revenue estimates. Both have caused concern on Wall Street regarding profitability.

So the two—Newton, Mass.-based Allaire Corp. and San Francisco's Macromedia Corp.—announced a technical merger under which Macromedia will acquire Allaire for \$360 million. "There was no need for either party to do it, but it was a compelling partnership," said Tom Hale, Macromedia's senior vice president of product marketing. Certainly, though, Allaire will benefit from the new surroundings. Like Gemstone and Bluestone before it, Allaire finds a home in which its application servers are but a piece of the total package, not the be-all and end-all of the product line. Macromedia gains from having immediate J2EE compliance and a platform tailored specifically to its development tools.

Skeptics might see this merger as a smoke-and-mirrors move to produce paper gains and expense reductions, and wary analysts might not be appeased. While Macromedia reported Q3 earnings per share of 29 cents, beating the consensus of 27 cents, USB Warburg has lowered its software-only revenue estimate to \$99 million for Q4 2001 from an earlier target of \$114 million, representing a 17 percent reduction in the revenue growth forecast. Its target price for the stock has been lowered from \$64 to \$37.

Yet, despite the downward earnings revisions and talk of acquisitions for the

sake of revenue, this is a move that actually appears to have some technological merit behind it.

Macromedia has been about "the user experience" with its front-end Web application development and presentation tools, Dreamweaver and UltraDev, as well as the widely accepted Flash player. Allaire has been a server-side force with ColdFusion and JRun application servers. Together, the companies claim, Macromedia will be able to offer software that can be used by Web professionals to write and deploy dynamic applications quickly over multiple devices, all built on the Java 2 specification from Sun. The target is "the mass enterprise," which Macromedia defined as marketing, business people and IT departments looking to quickly get projects up and running.

This is not one of those deals in which a company purchases another because its price is low and then takes years to figure out how to integrate the product lines (see Computer Associates). Macromedia and Allaire are no strangers, having supported each other's products for years and most recently working together on a toolkit of six Flash components—code-named Harpoon—that are UI controls that developers can use to extend the functionality of Web applications running on the ColdFusion and JRun servers. It is expected to be released this month at no cost, as a way to introduce the technology.

Details, of course, remain to be hashed out. Allaire product manager Adam Berry said the road map Allaire laid out for its product line back in November will remain unchanged, with development continuing on ColdFusion, Homesite, JRun and Spectra. Macromedia's Hale said CFML (ColdFusion Markup Language) "won't be abandoned," which is

akin to the owner of a football team giving his losing coach a vote of confidence. CFML was a powerful language when it was released; unfortunately, after Java took off, most developers chose to go in that direction. The new Macromedia plans to migrate the J2EE technology across its product line, which seems to be a good idea. It also plans to create Web services—reusable components—that will enhance Microsoft's .NET, Hale said.

Still, the talk of matching synergies, compelling partnerships, a common mission and cultural and philosophical underpinnings to the merger (their words) cannot conceal the fact that a kick start is needed to reverse Macromedia's downward spiral. The Allaire brand fades into the high-technology sunset.

### THINGS ARE LOOKING UP

Economic optimism rose modestly last month, with investors favoring President George W. Bush's tax policies and believing the slowdown will stabilize. That's the word from PaineWebber, which tracks investor optimism monthly. The Index of Investor Optimism, a random survey of 1,003 investors from around the country, rose to 130, up from 118 in December. What's interesting is that optimism divided sharply along party lines, with Republicans showing a steep climb in optimism—to 225 from 132 in December—while Democrats showed a huge drop to 30 from 109 in December.

Because stock prices have tumbled, 65 percent of the survey's respondents believe that now is a good time to invest. Also, 51 percent believe the stock market will be higher a year from now, while only 11 percent believe it would be lower.

The role of the Federal Reserve in setting economic policy was favored by 41 percent, while 35 percent said Congress should take the lead role. ■

David Rubinstein is executive editor of SD Times.

### MONEY WATCH



DAVID RUBINSTEIN

## BUSINESS BRIEFS

**Microsoft Corp.** is targeting the enterprise software market with a new \$200 million advertising campaign built around the catchy theme, "Software for the Agile Business." **Sun Microsystems Inc., Oracle Corp. and IBM Corp.** are viewed by Microsoft as its main competitors in that \$90 billion-per-year space . . . **Informix Business Solutions**, the independent asset-management company formed when Informix Corp. split itself into two, has changed its name to **Ascential Software Inc.** . . . London-based **SpiritSoft Inc.**, a Java Messaging Service solution provider, has secured an investment of 8 million pounds (\$11.6 million) to be used to extend SpiritSoft's presence globally. **Reuters Greenhouse Fund and Catalyst Fund Management and Research Ltd.** led the investment . . . A flood of earnings reports has resulted in a mixed bag that makes technology stock predictions difficult to make. On the positive side, **Rogue Wave Software Inc.** reported \$14.3 million in revenues for its first fiscal quarter ended Dec. 31, 2000, with earnings per share of 3 cents, up from \$12.6 million and a loss of 5 cents per share a year ago. Net income for the quarter was \$364,000, as opposed to a loss of \$507,000 from a year earlier. **Iona Technologies Inc.** reported record fourth-quarter revenues of \$47.9 million, a 44 percent increase over 1999's Q4 report. For the year, Iona reported revenues of \$153.1 million, a 45 percent rise from a year earlier. Its 2000 *pro forma* earnings were \$21.8 million, or 93 cents per share, an increase of 59 cents per share from a year earlier. On the down side, **Citrix Systems Inc.** reported fourth-quarter revenues of \$123.4 million, up from \$118.1 million a year ago. However, net income, excluding amortization and the write-down of technology, was \$31.7 million, or 16 cents per share, for Q4. For the same quarter last year, Citrix showed net income of \$34 million, or 17 cents per share. ■



### CALENDAR OF EVENTS

#### Internet Appliance Workshop

Feb. 20-21

San Jose Wyndham Hotel, CA  
CONFERENCE CONCEPTS INC.  
[www.netapplianceconf.com](http://www.netapplianceconf.com)

#### Intel Developer Forum

Conference Feb. 26-March 1

San Jose Convention Center, CA  
INTEL CORP.

<http://developer.intel.com/idf>

#### International Conference for Java Development

Feb. 26-March 2

Marriott Marquis, New York  
CAMELOT COMMUNICATIONS CORP./  
SUN MICROSYSTEMS INC.  
[www.javacon2001.com](http://www.javacon2001.com)

#### Software Test Automation Conference & Expo

March 5-8

The Fairmont Hotel, San Jose, CA  
SOFTWARE QUALITY ENGINEERING  
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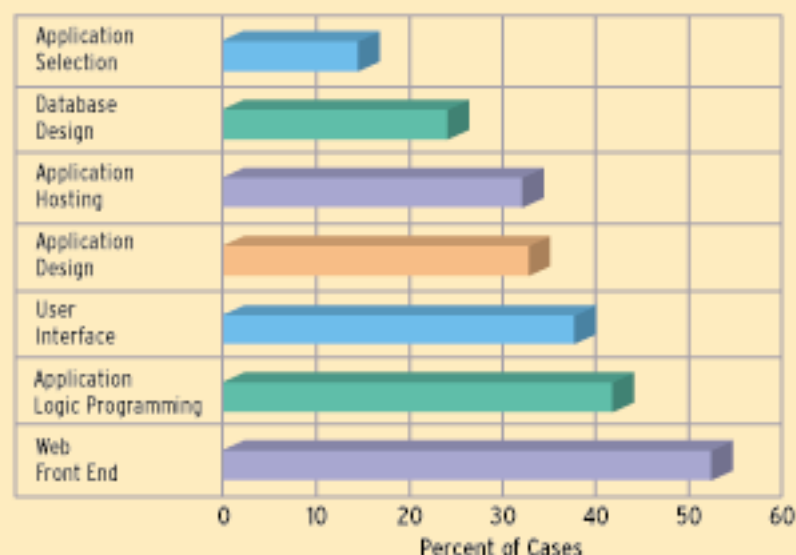
March 27-28

Sheraton Boston Hotel, Boston  
INTERMEDIA GROUP INC.  
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## What Programming Tasks Are Development Managers Most Likely to Outsource?

EVANS DATA WATCH



In a January survey of roughly 400 development managers at companies with more than 2,000 employees, over half said they are most likely to outsource front-end Web projects.

Six months earlier, the majority of respondents had indicated they would be likely to outsource application logic programming.

Respondents could choose more than one answer.

Source: Evans Data Corp.  
Enterprise Development Management Issues,  
Volume 2, January 2001



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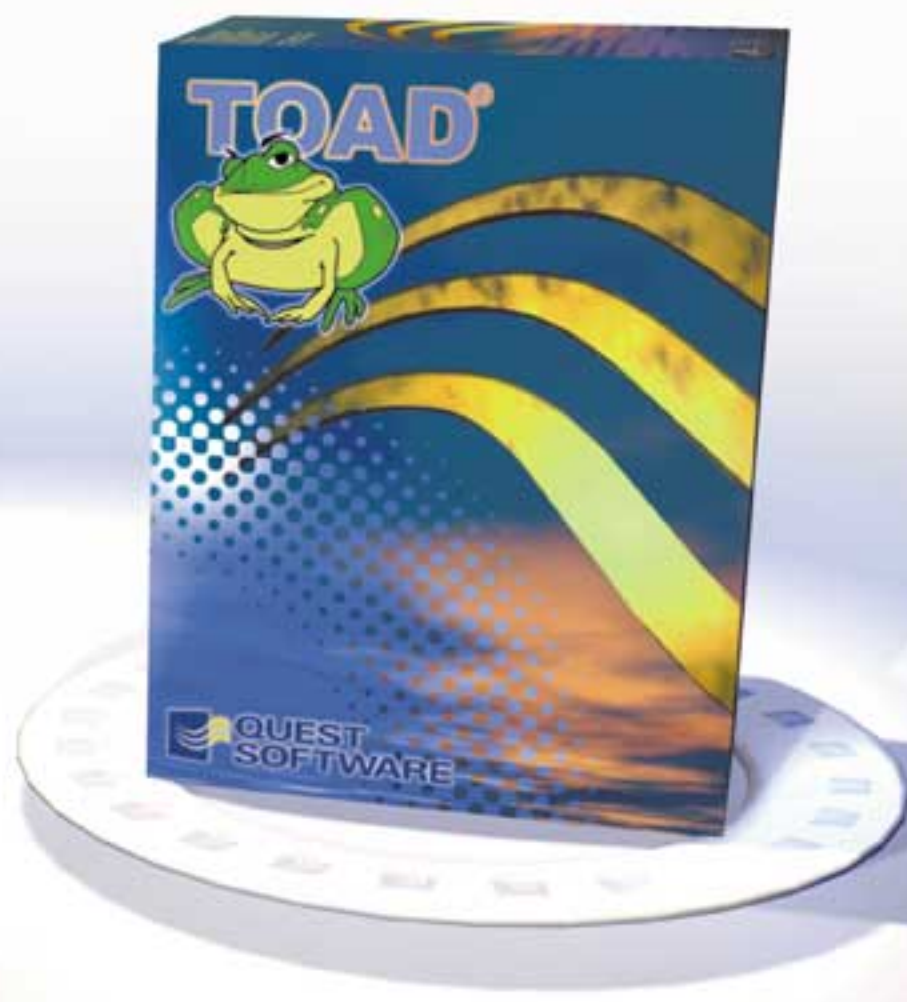
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